

PRELIMINARY REPORT:

STATUS OF U.S. LAND REMOTE SENSING ARCHIVE

September 1989

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STATUS OF THE U.S. LAND REMOTE SENSING ARCHIVE, September 1989

INTRODUCTION

In 1989, an investigation was undertaken to determine and develop means that would display Landsat data listed in the National Satellite Land Remote Sensing Data Archive.

DISCUSSION

The outcome of the effort is a series of plots. As this is written, plots for the continents of Africa and South America for U.S. acquired Thematic Mapper data have been completed for 1983 through 1988. The 1989 data plot is, of course, incomplete at this time.

For each continent, there is a series of plots for all accession data by year and a summary for all years. In addition there is a series of plots depicting accessions with 30% or less cloud cover for all years and a summary of 30% or less cloud cover accessions for all years. Caution should be exercised in dealing with the cloud cover data plots. Generally the cloud cover value is determined by the Thematic Mapper Image Processing System (TIPS) machine. Historically, the TIPS cloud cover call was correct about 50% or less of the time.

Where large holidays were noted, such as the eastern coast of Brazil, EOSAT was informed, such that current data acquisitions could be obtained.

SUMMARY

Much more remains to be done. For example:

- a) The continents of North America, Antarctic, India, Europe, and Asia remain. I feel strongly that review of Antarctic data is required immediately for both MSS and TM ascending (day) and descending (night) data. I also believe that an ascending plot is required for the world.
- b) At this point, I believe that it would be instructive to modify the software routines to offer an option to incorporate a number in each frame which would depict the number of scenes available with the selection criteria used.
- c) Other modifications such as; using color to depict satellite, season or other variables should be considered and incorporated.
- d) Plots of international data; i.e., those accessions held by Landsat Ground Stations participating in the International Database at EDC could be accomplished.

PROCEDURE

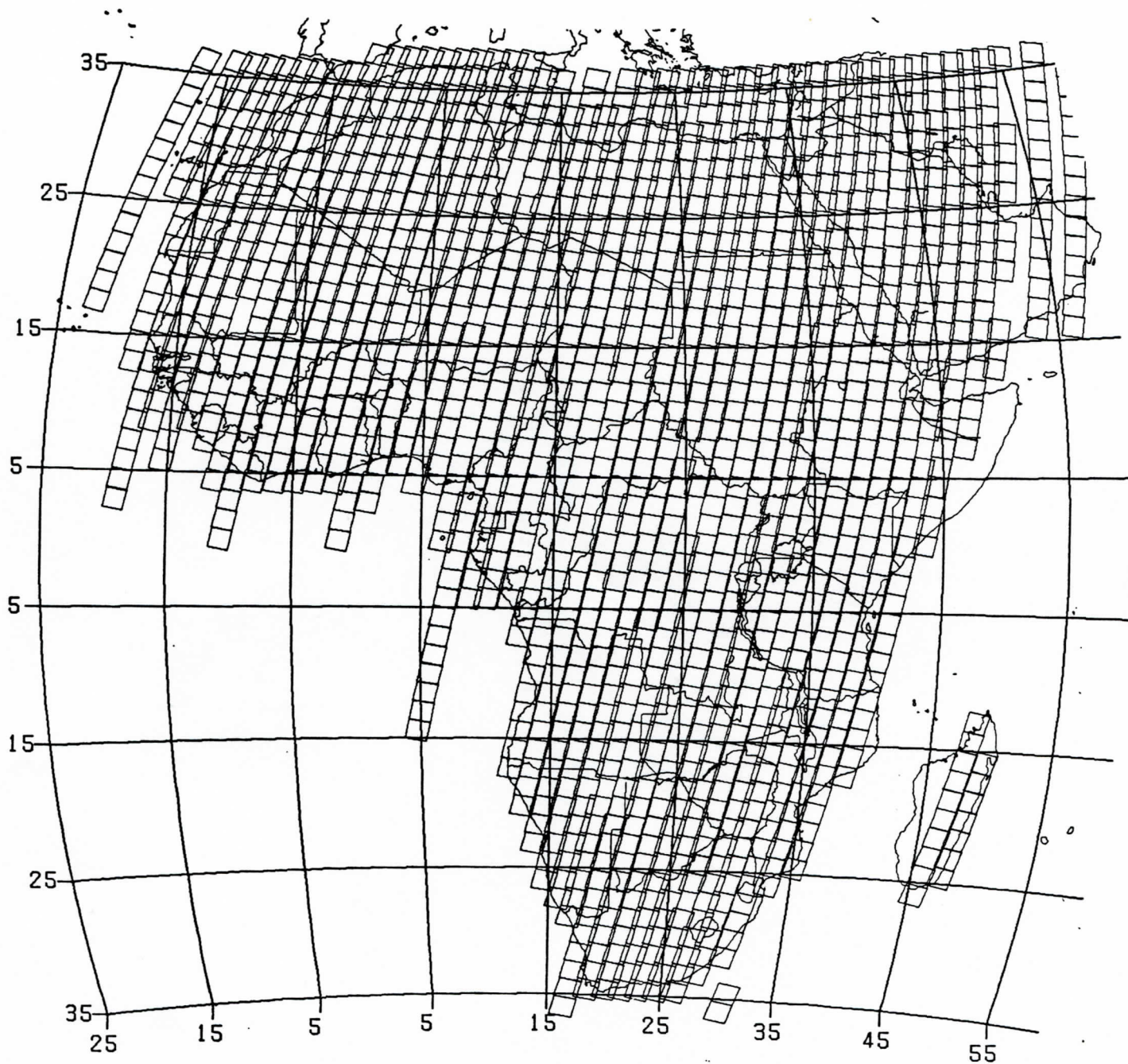
To display the data available in the Archive, a series of procedures and some software programs were written. Briefly, the steps to accomplish these plots are as follows:

- a) Select area/sensor of interest and create the INORAC Inquiry (DI029) output tape.
- b) On a separate system, ingest the DI029 tape, reducing the 293 byte records to 128 bytes.
- c) Copy the smaller record to 5 1/4 or 3 1/2 inch IBM PC compatible floppies.
- d) Ingest the floppies with an IBM PC compatible machine (8086 through 80326).
- e) Apply a BASIC program to edit the 128 byte records, to select year, area, cloud cover, quality, etc. (DI29EDIT.BAS will do this.)
- f) Apply a BASIC program to compute the corner points for plotting with CAM. (MASTER.BAS will do this.)

- g) Transfer the prepared CAM files to a machine licensed for CAM and execute.

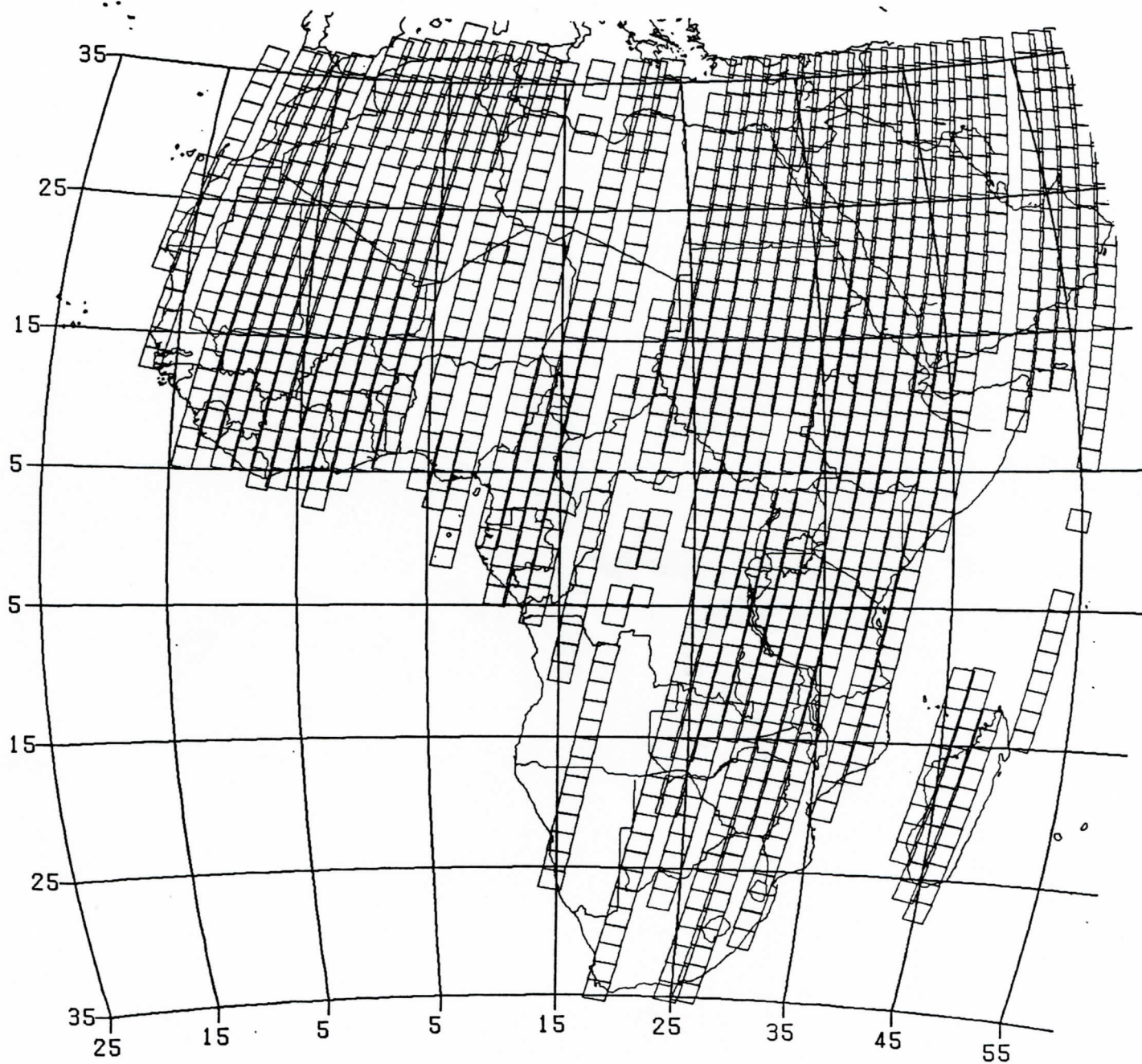
This procedure is flexible enough to accommodate MSS, TM, and RBV data (no RBV testing was accomplished) along with ascending (night time) MSS and TM data for the U.S. and foreign holdings. However, time did not permit the testing of ascending data to determine if there are problems in plotting ascending data crossing zero degrees latitude and zero degrees longitude.

AFRICA - ALL TM DATA
FOR 1984



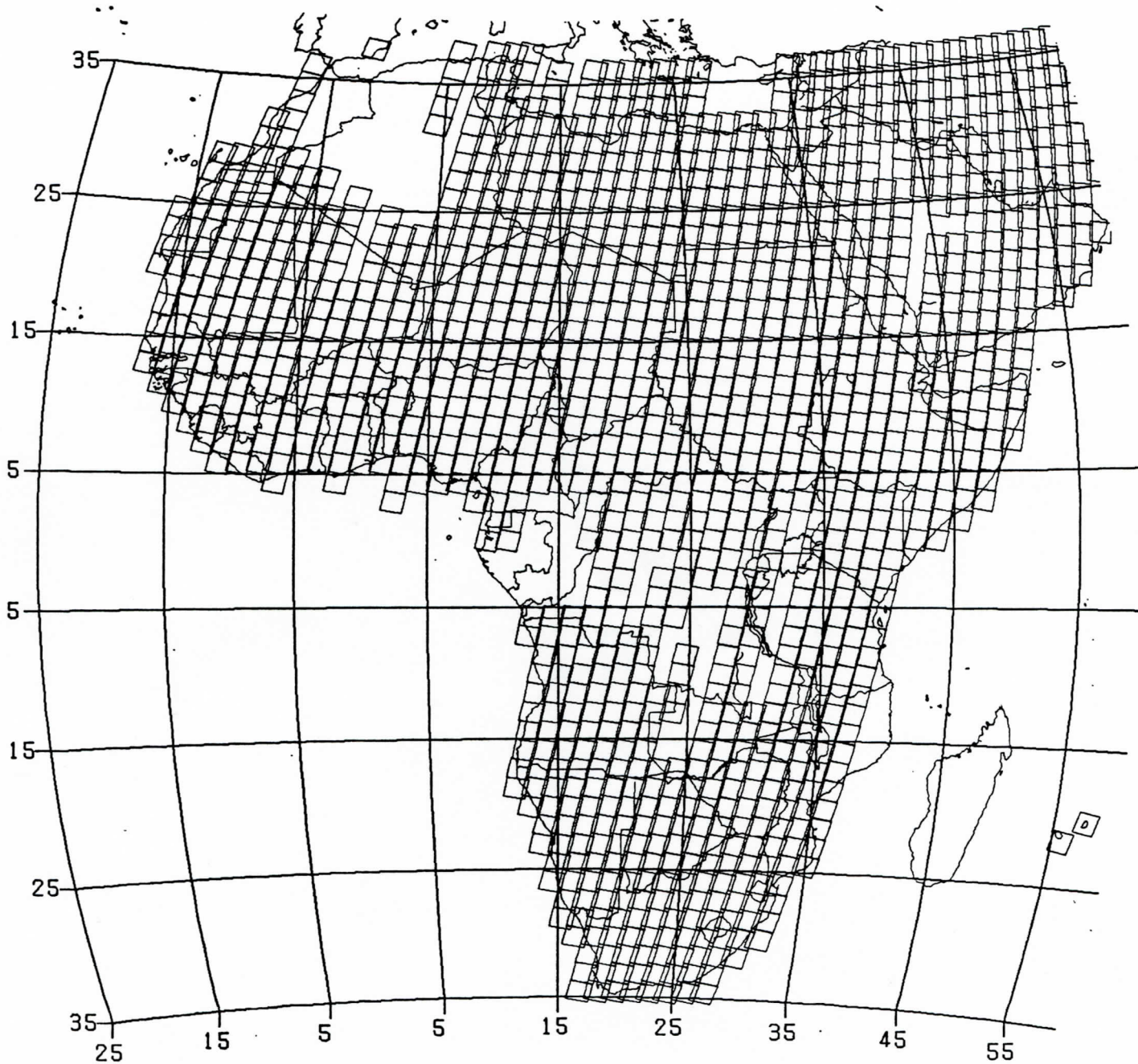
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LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION

AFRICA - ALL TM DATA
FOR 1985



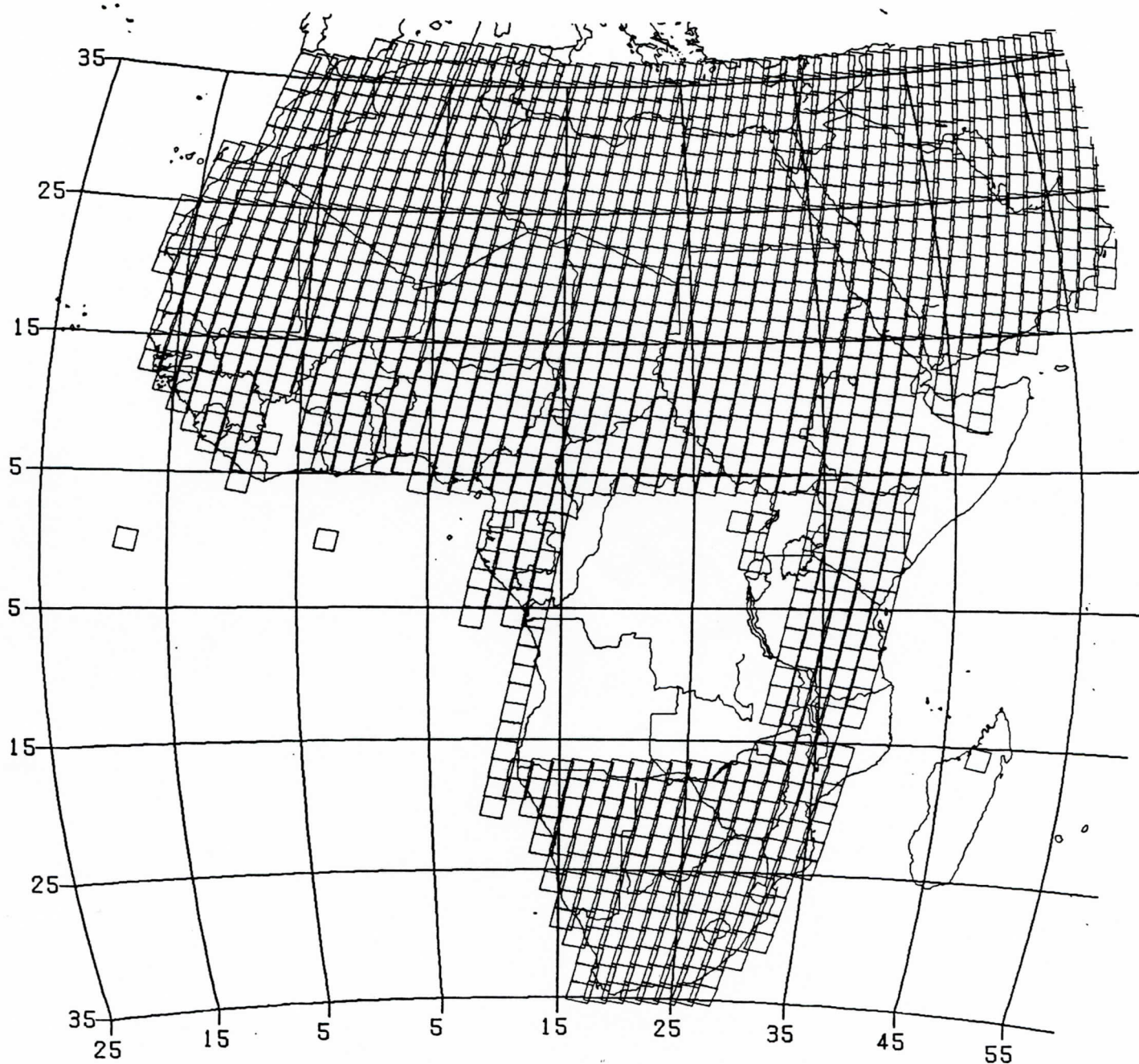
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AFRICA - ALL TM DATA
FOR 1986



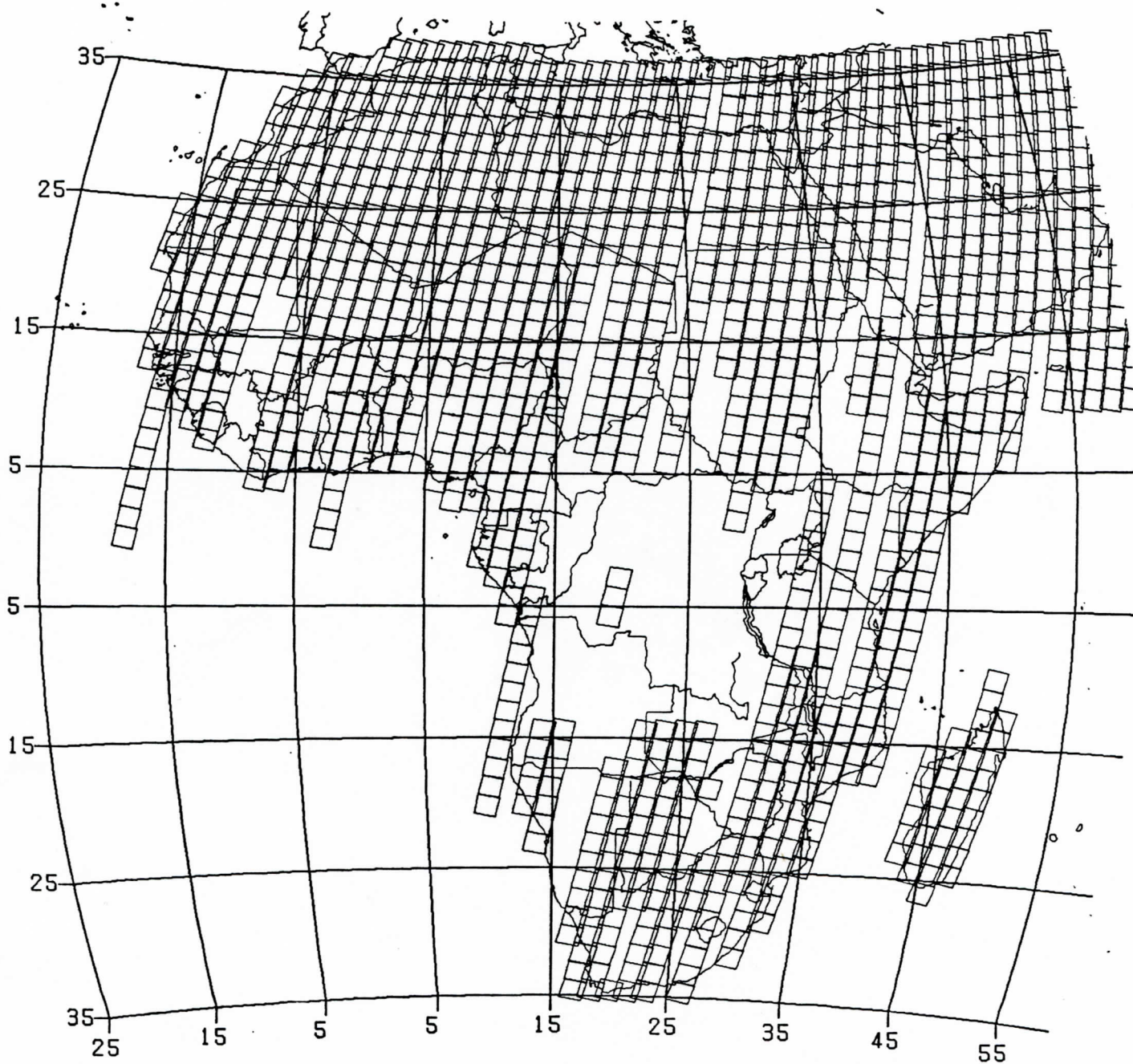
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LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION

AFRICA - ALL TM DATA
FOR 1987



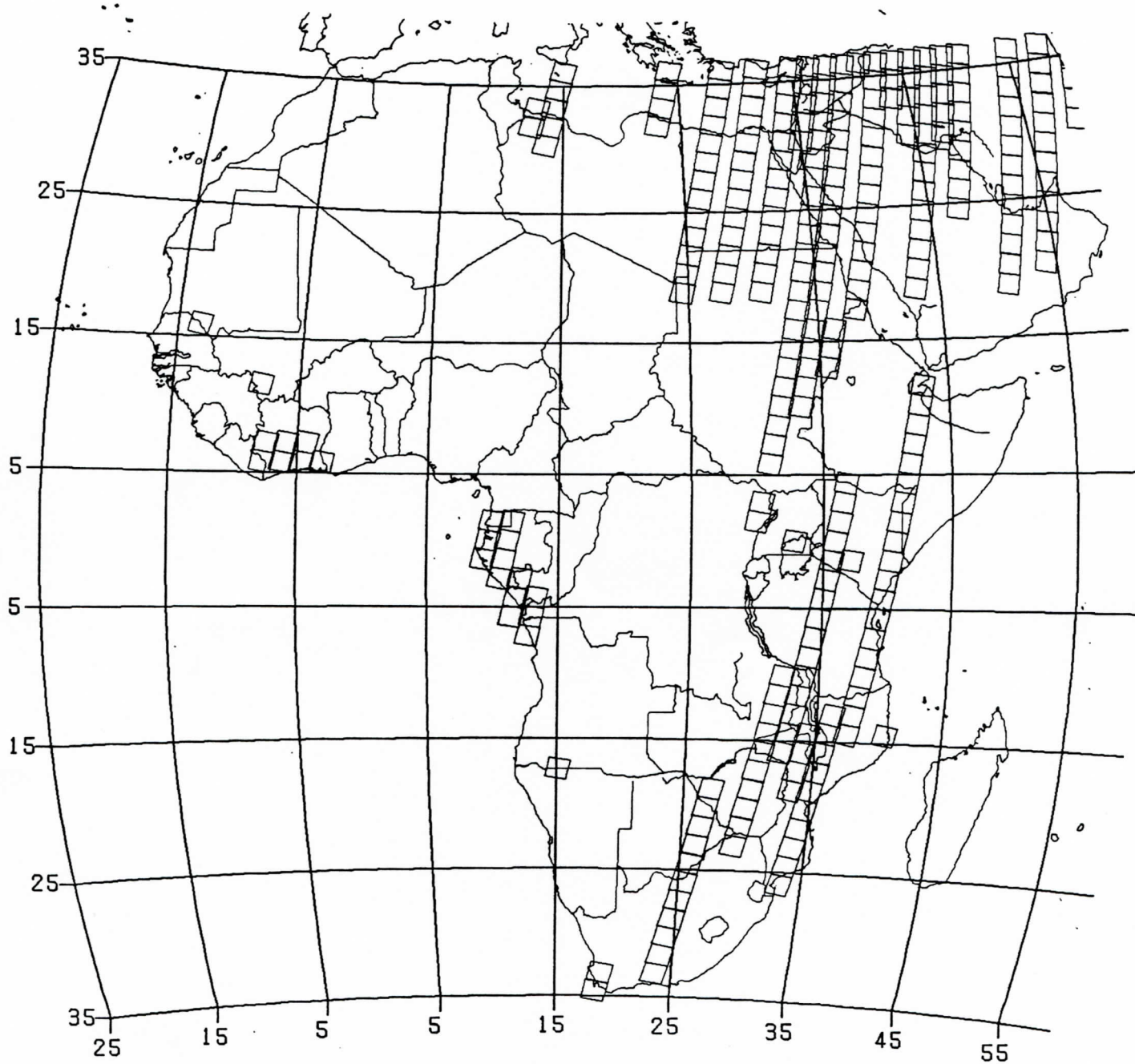
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LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION

AFRICA - ALL TM DATA
FOR 1988



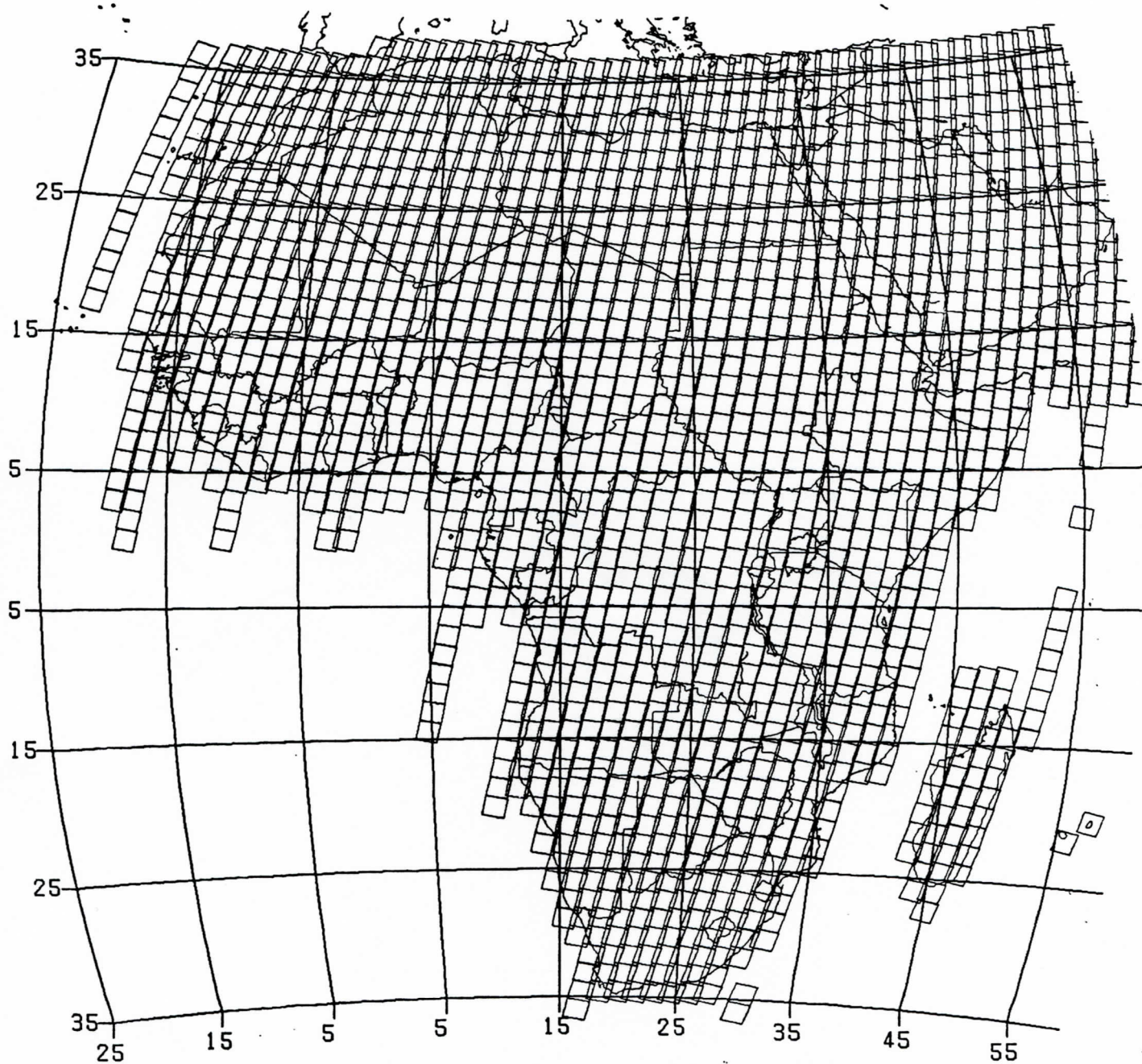
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LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION

AFRICA - ALL TM DATA
FOR 1989



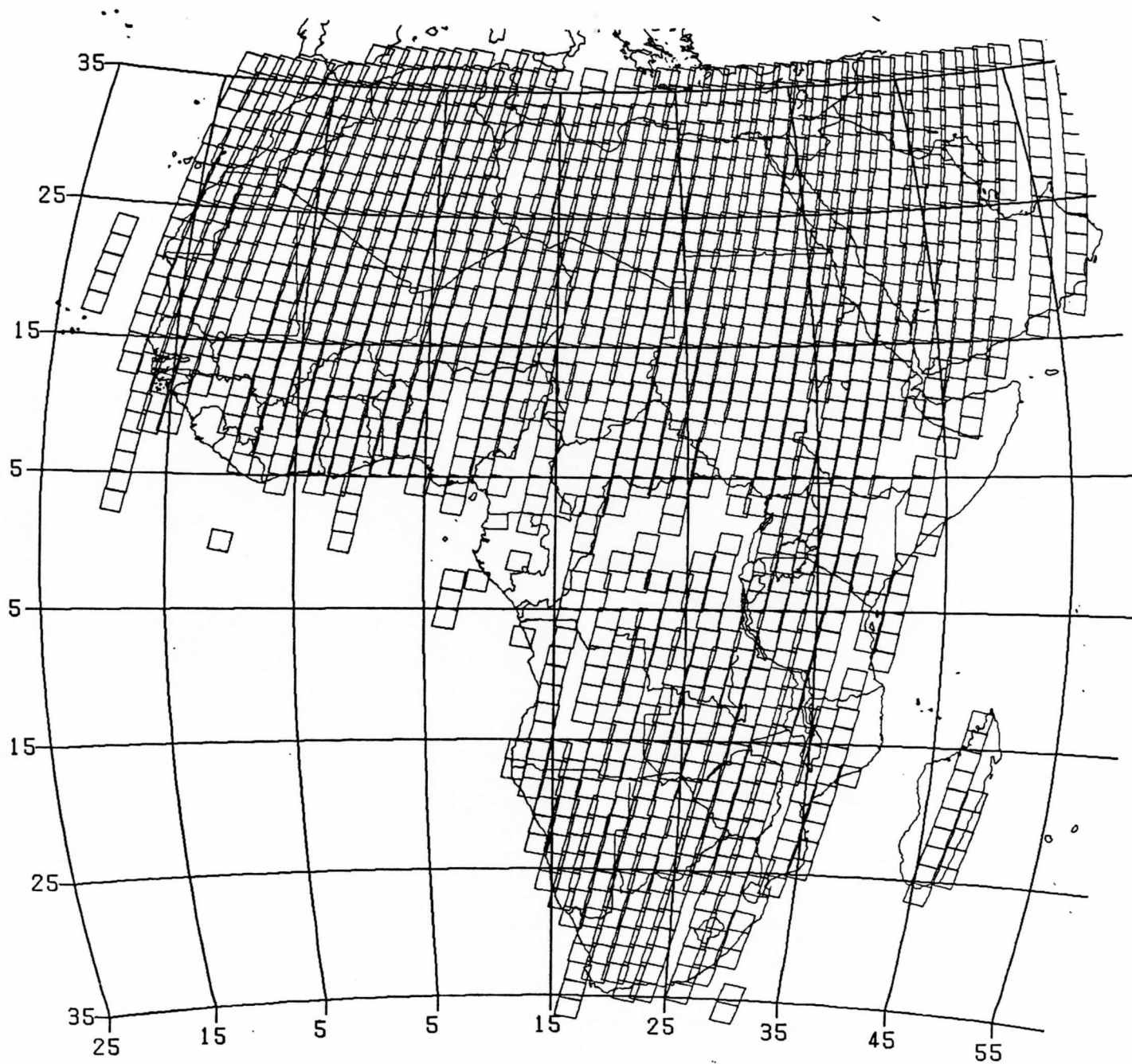
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LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION

AFRICA - ALL TM DATA
1984 TO JUNE 1989



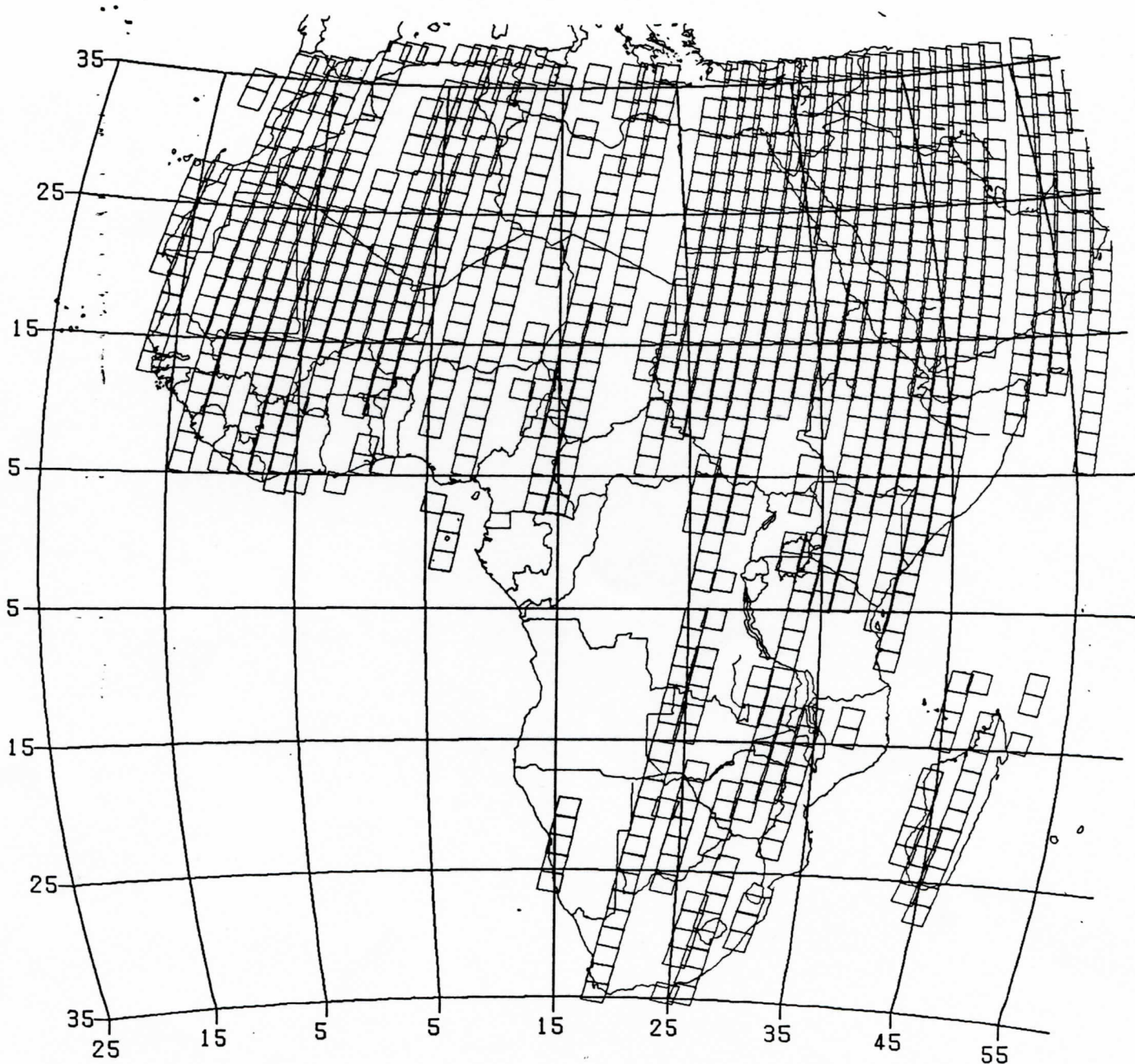
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LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION

AFRICA - ALL TM DATA
WITH 30% OR LESS CLOUD COVER
FOR 1984



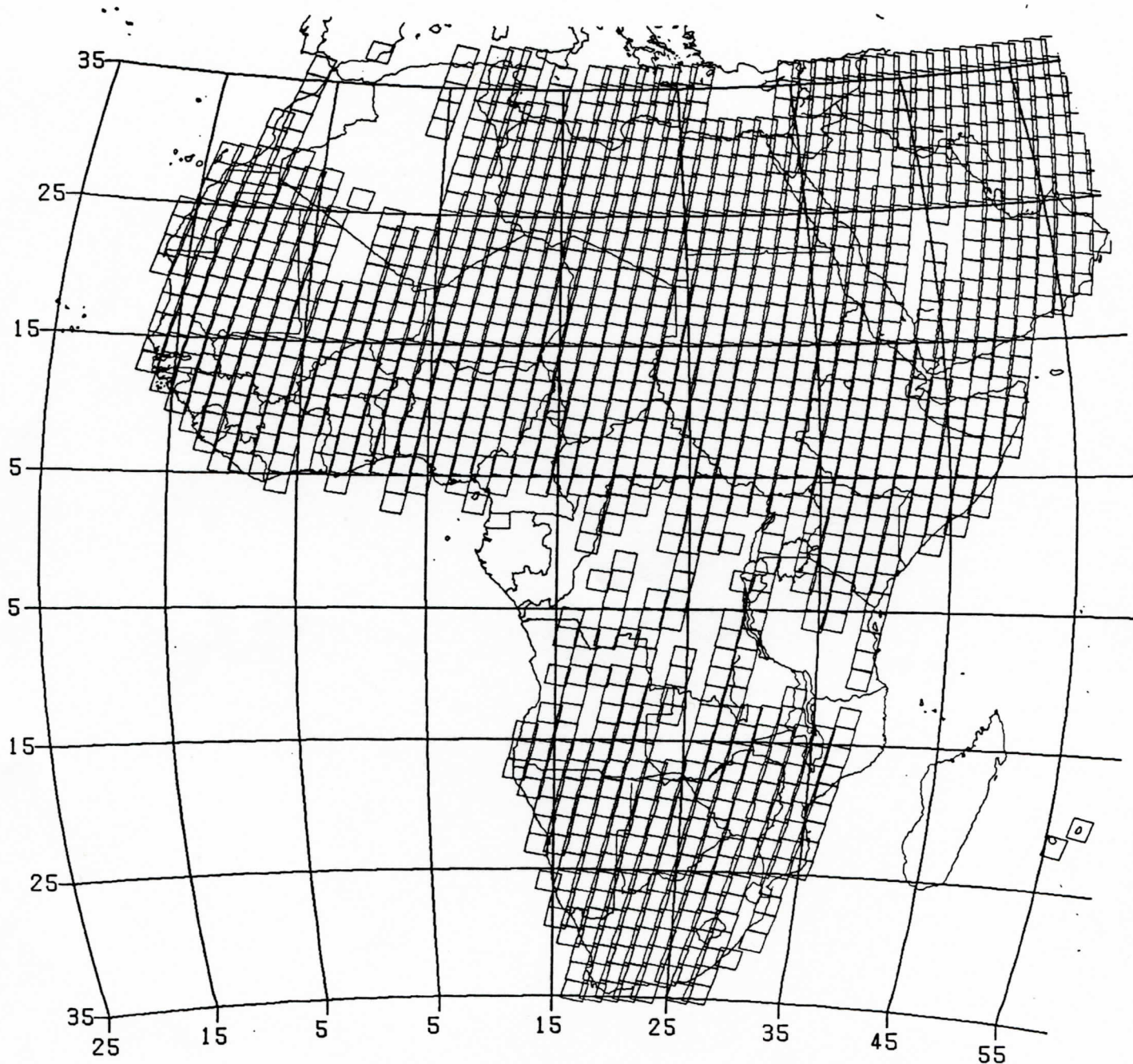
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AFRICA - ALL TM DATA
WITH 30% OR LESS CLOUD COVER
FOR 1985



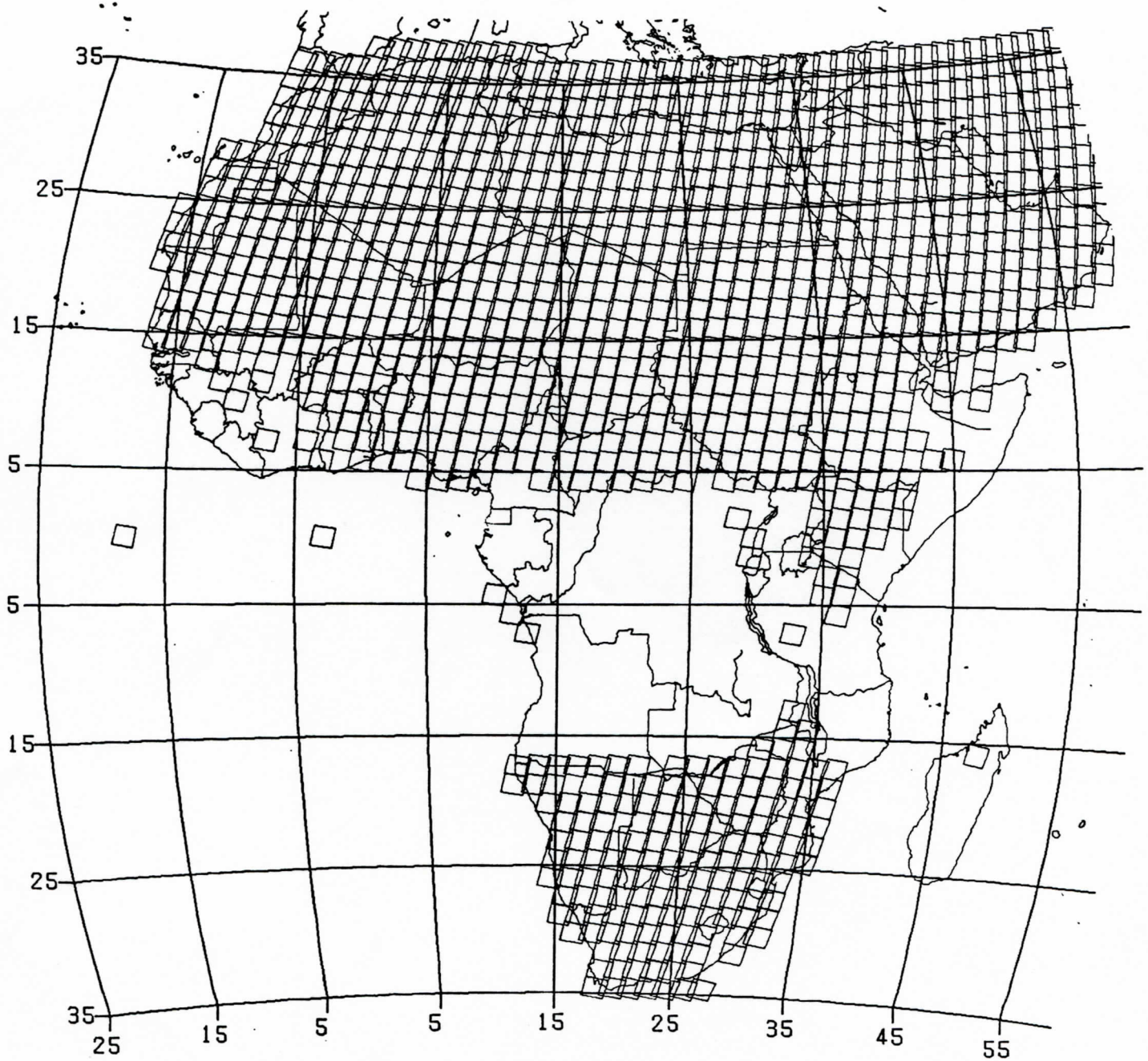
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AFRICA - ALL TM DATA
WITH 30% OR LESS CLOUD COVER
FOR 1986



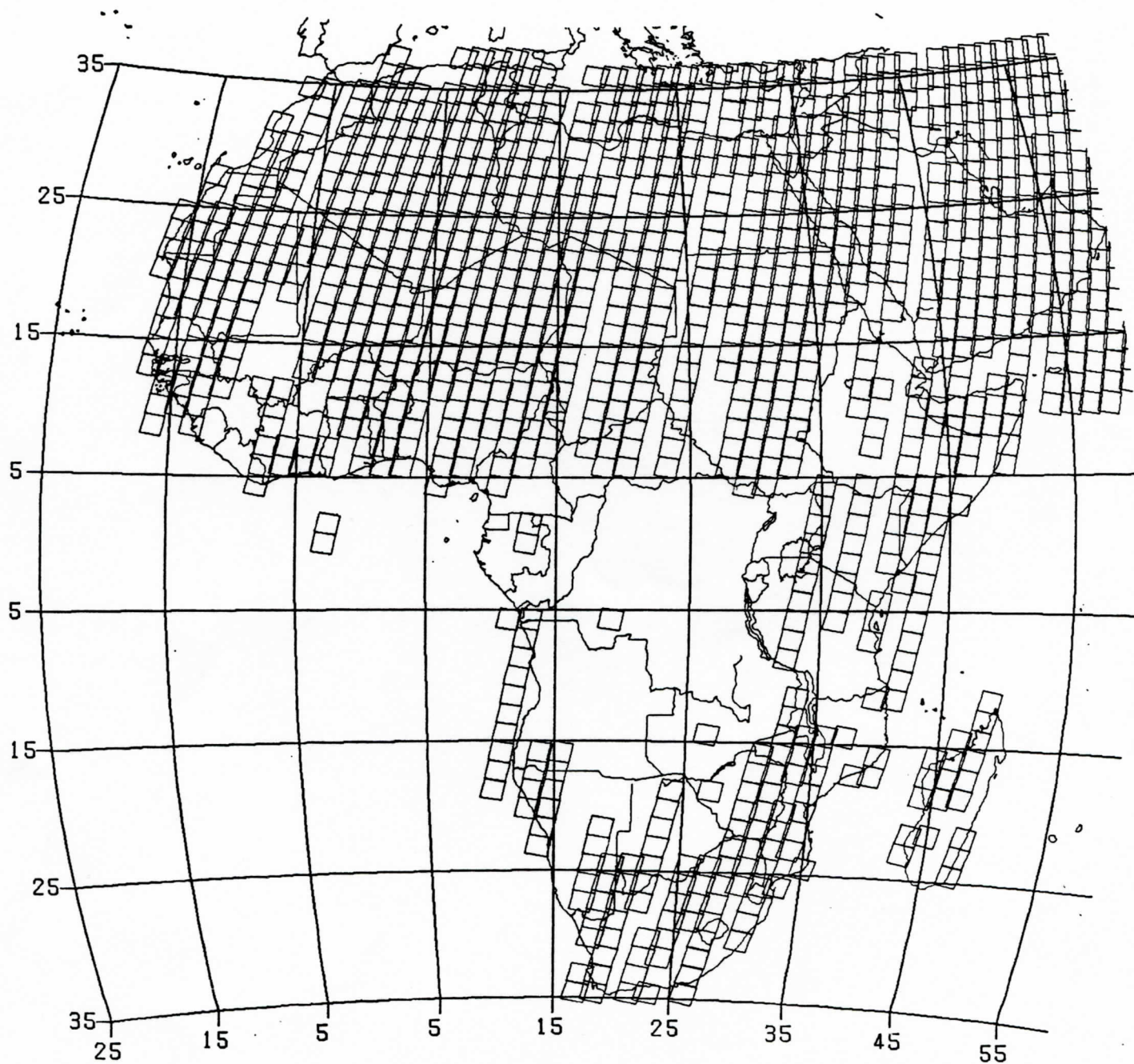
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LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION

AFRICA - ALL TM DATA
WITH 30% OR LESS CLOUD COVER
FOR 1987



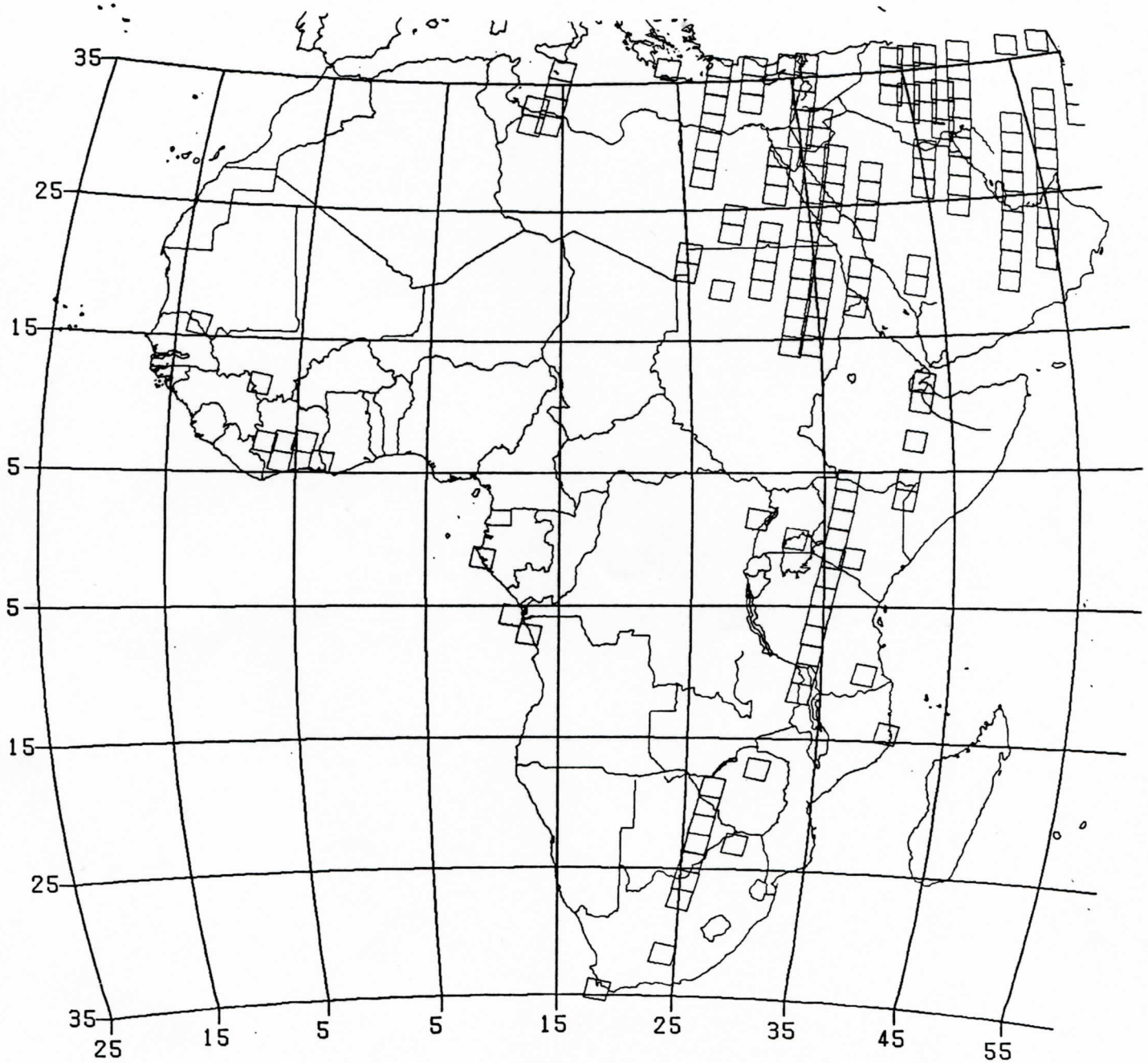
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AFRICA - ALL TM DATA
WITH 30% OR LESS CLOUD COVER
FOR 1988



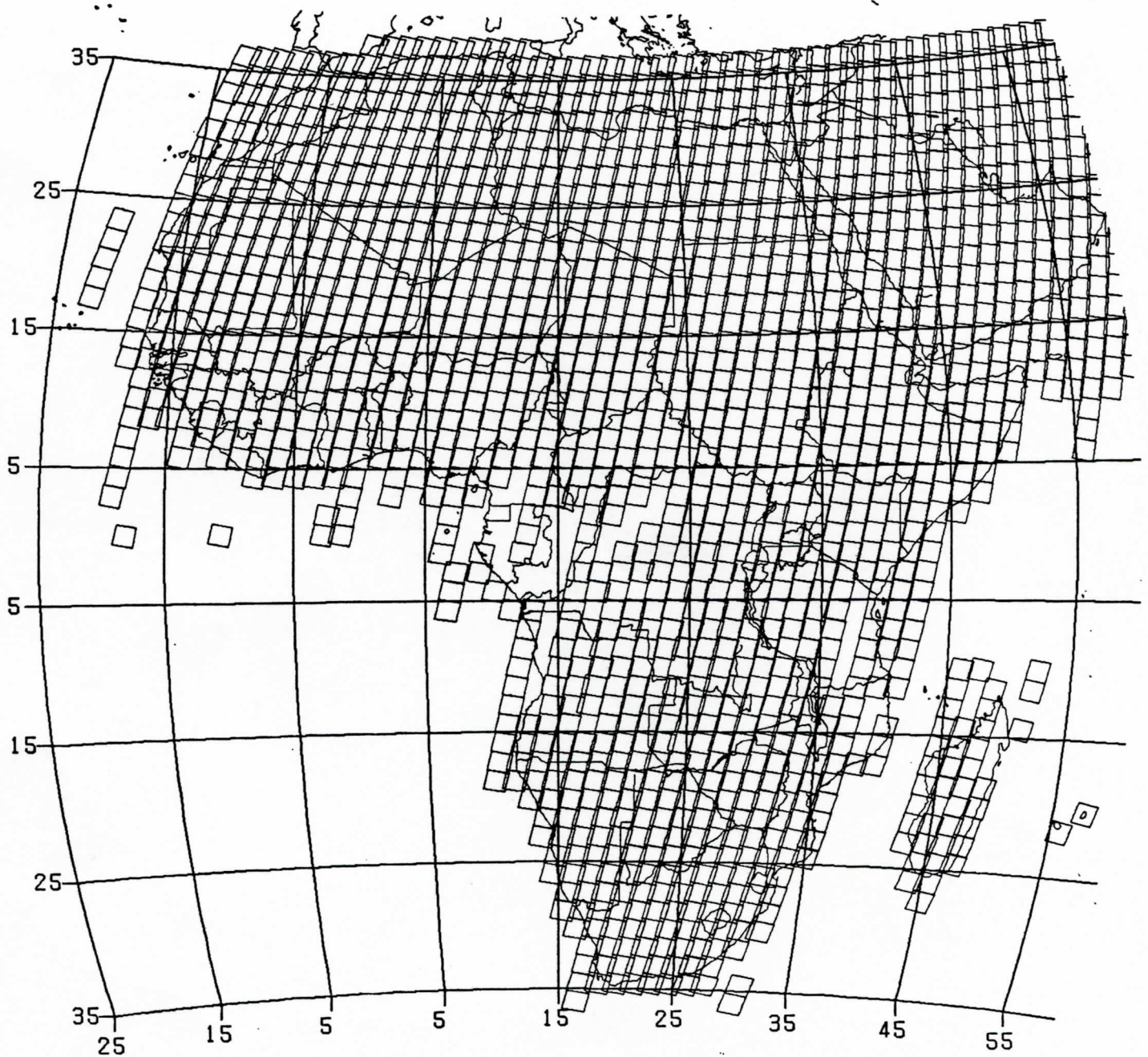
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LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION

AFRICA - ALL TM DATA
WITH 30% OR LESS CLOUD COVER
TO JUNE 1989



MAP SCALE 1:50,000,000
LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION

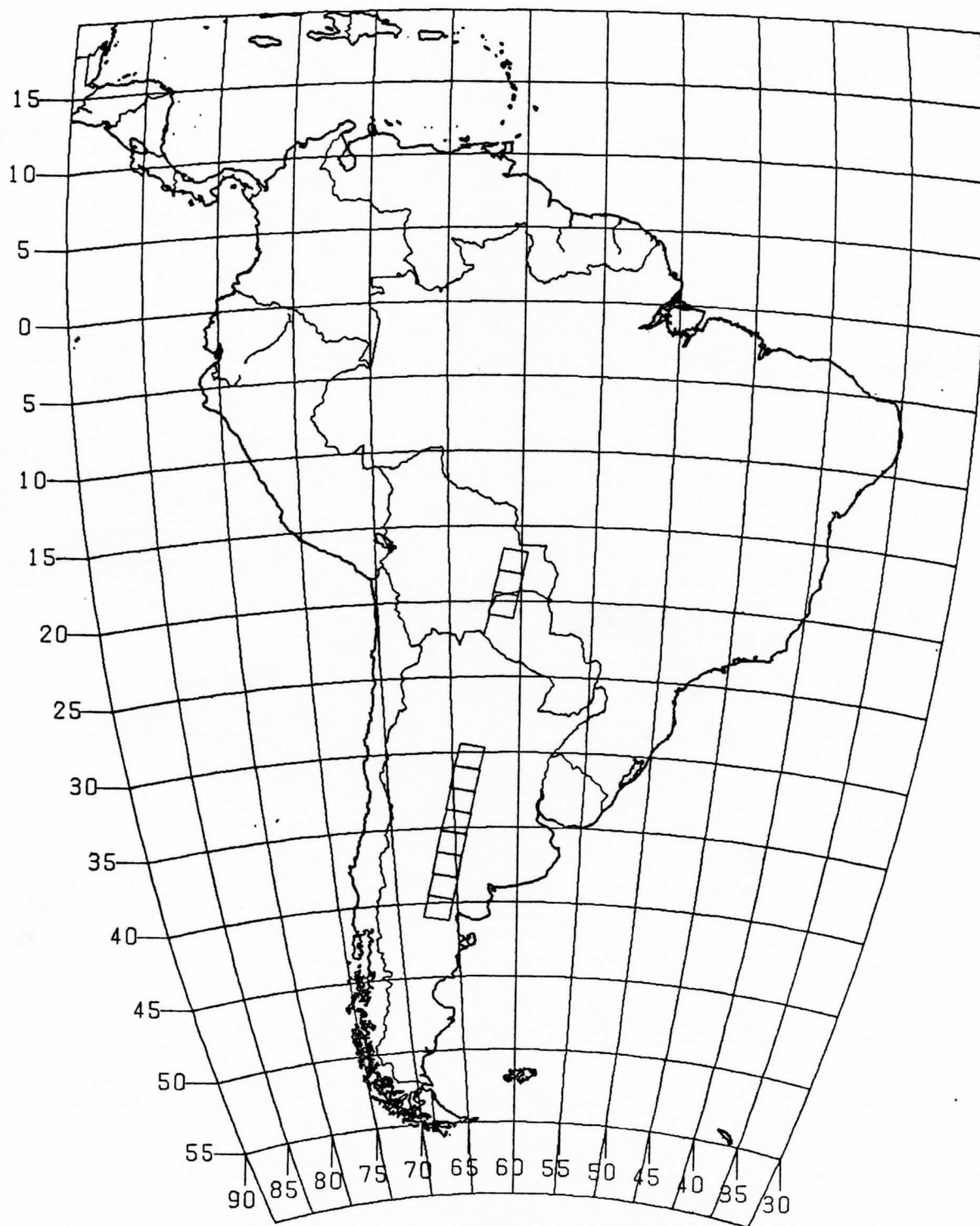
AFRICA - ALL TM DATA
WITH 30% OR LESS CLOUD COVER
1984 TO JUNE 1989



MAP SCALE 1:50,000,000
LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION

SOUTH AMERICA TM DATA

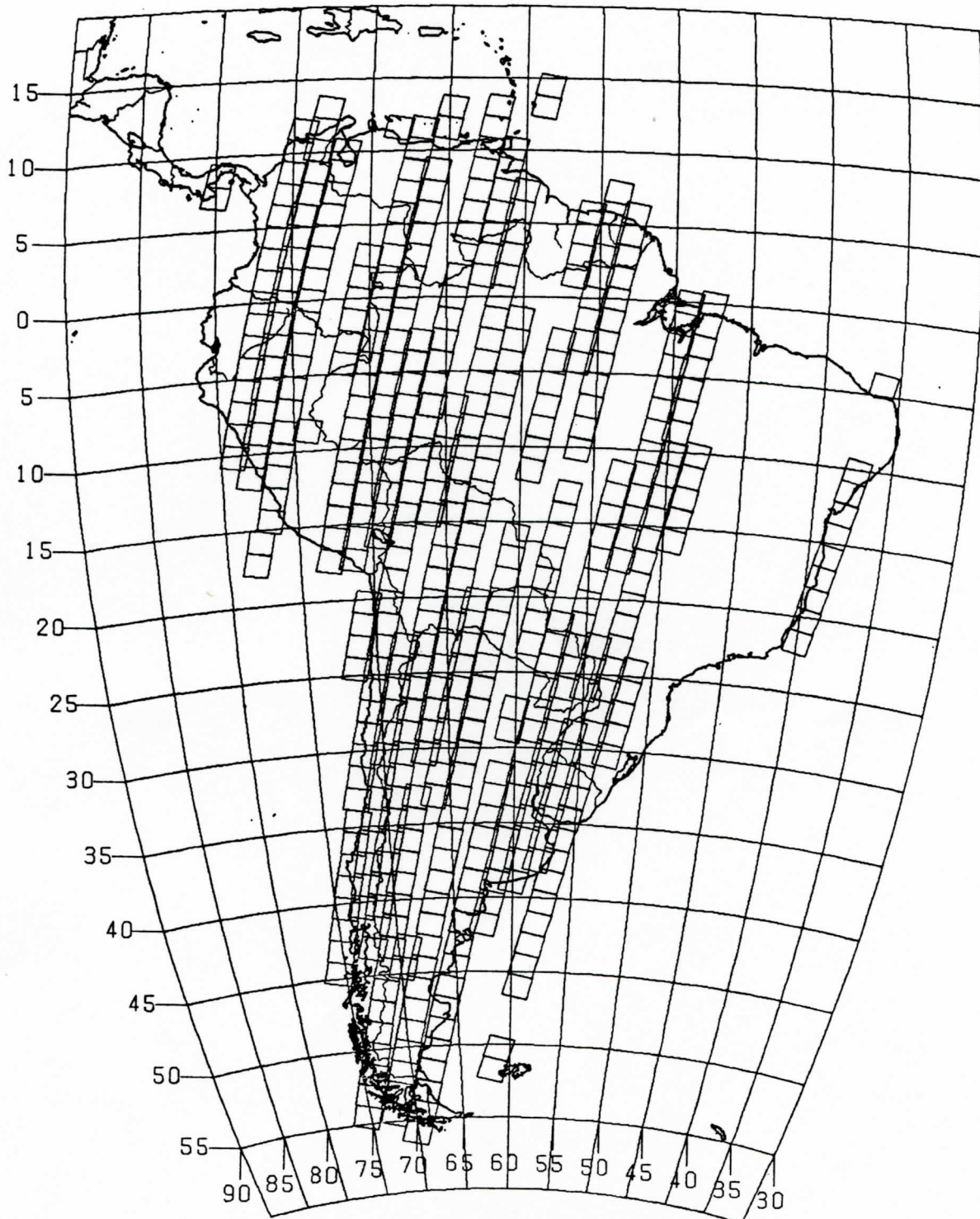
1983



LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION
MAP SCALE 1:45,000,000

SOUTH AMERICA TM DATA

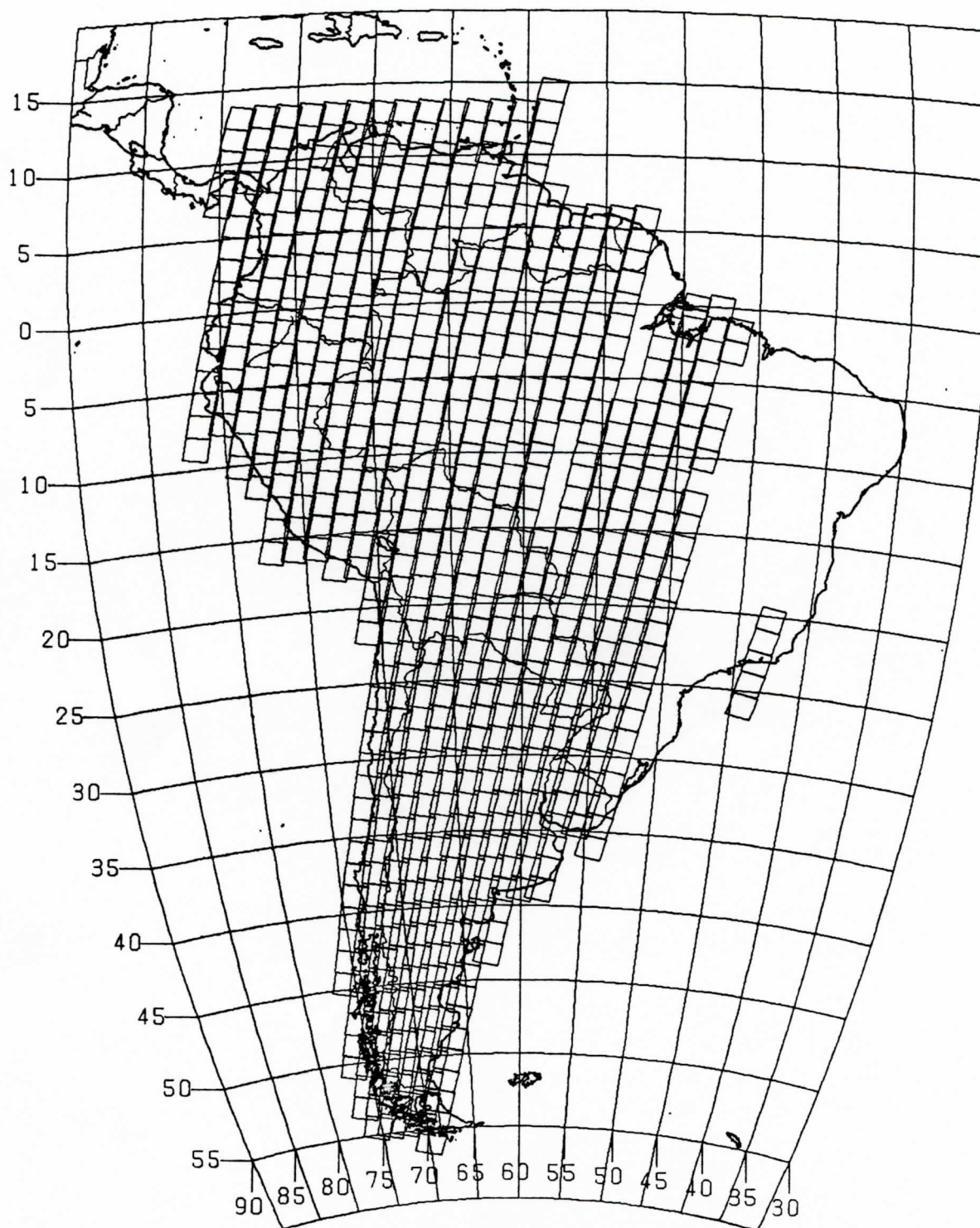
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LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION
MAP SCALE 1:45,000,000

SOUTH AMERICA TM DATA

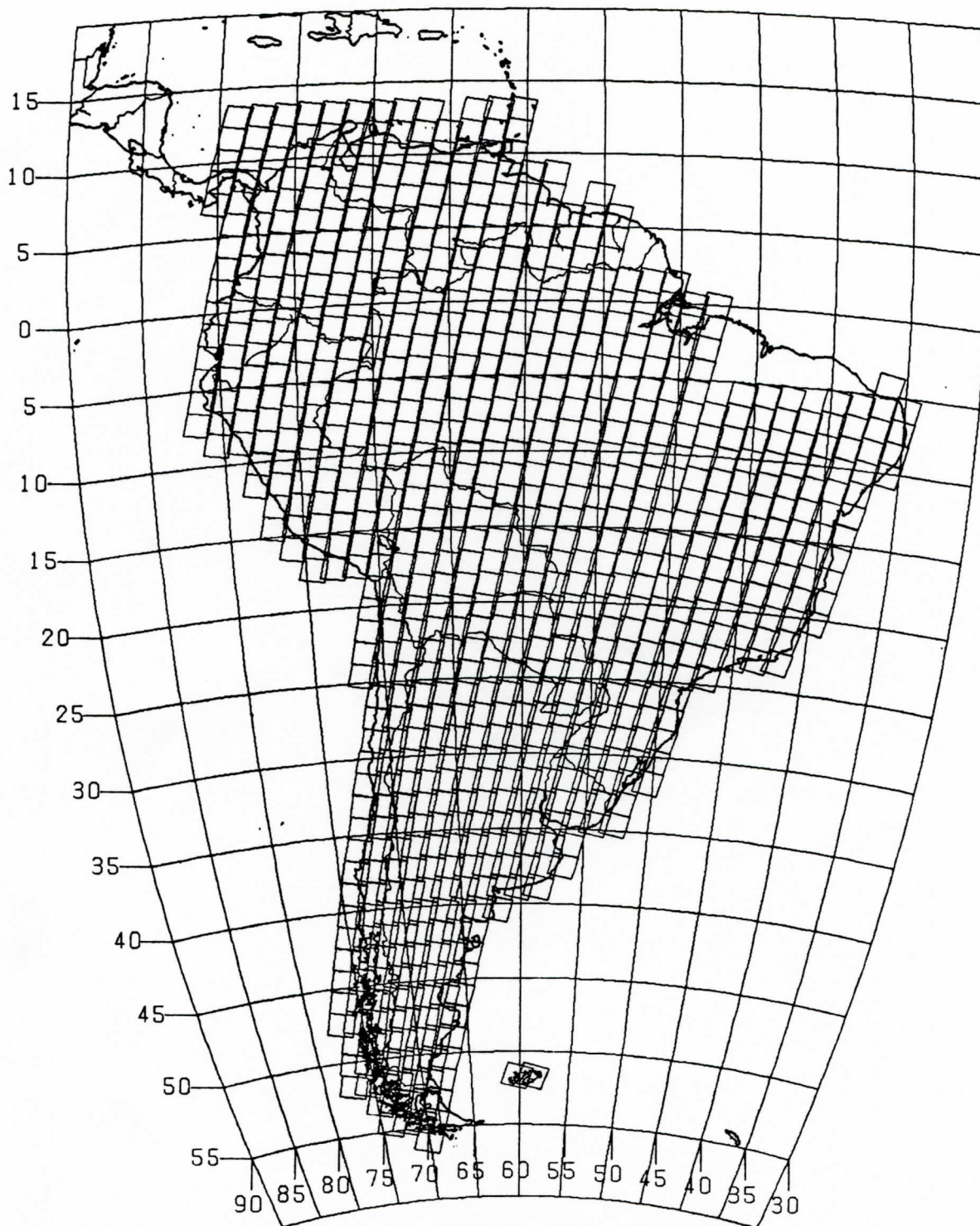
1985



LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION
MAP SCALE 1:45,000,000

SOUTH AMERICA TM DATA

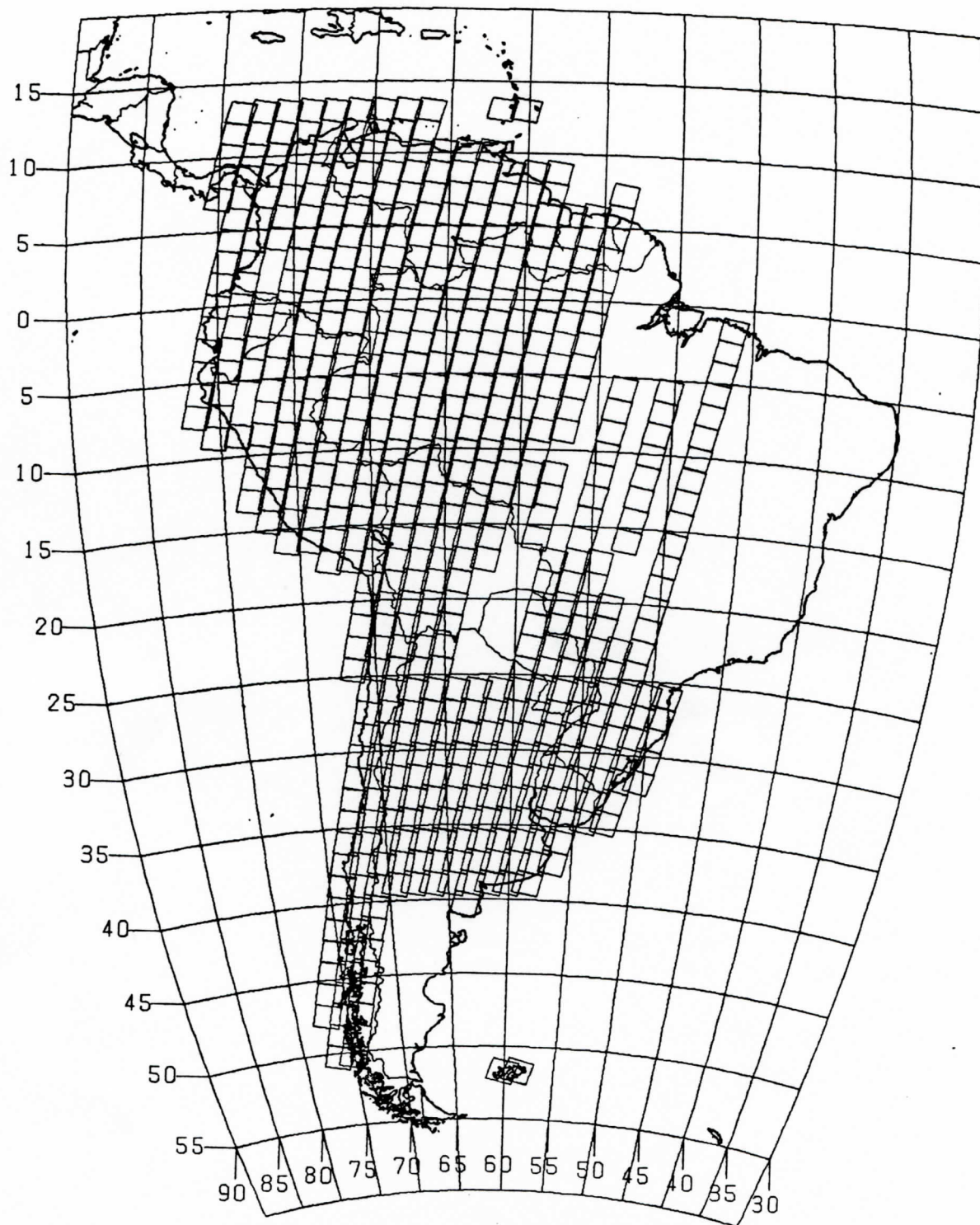
1986



LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION
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SOUTH AMERICA TM DATA

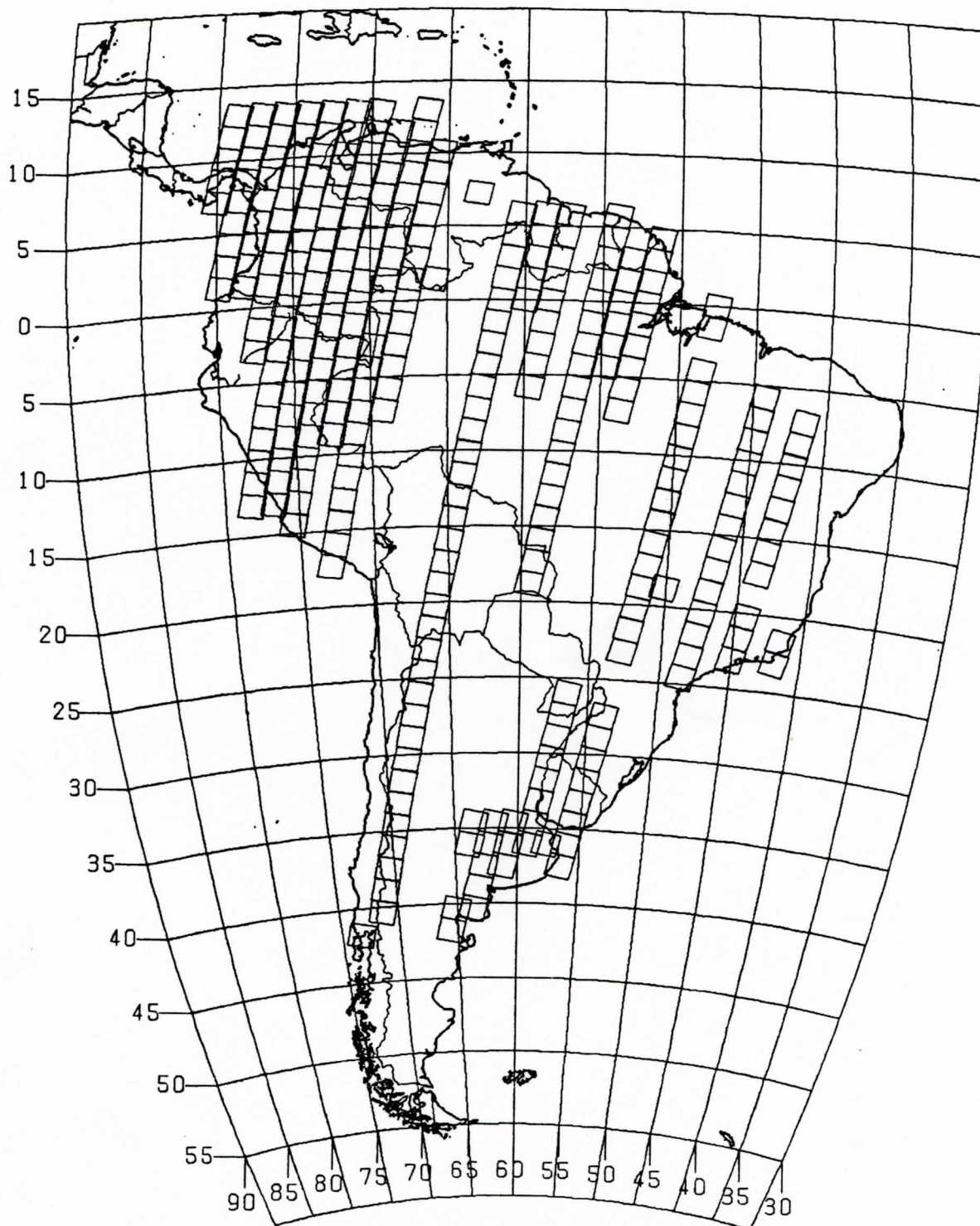
1987



LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION
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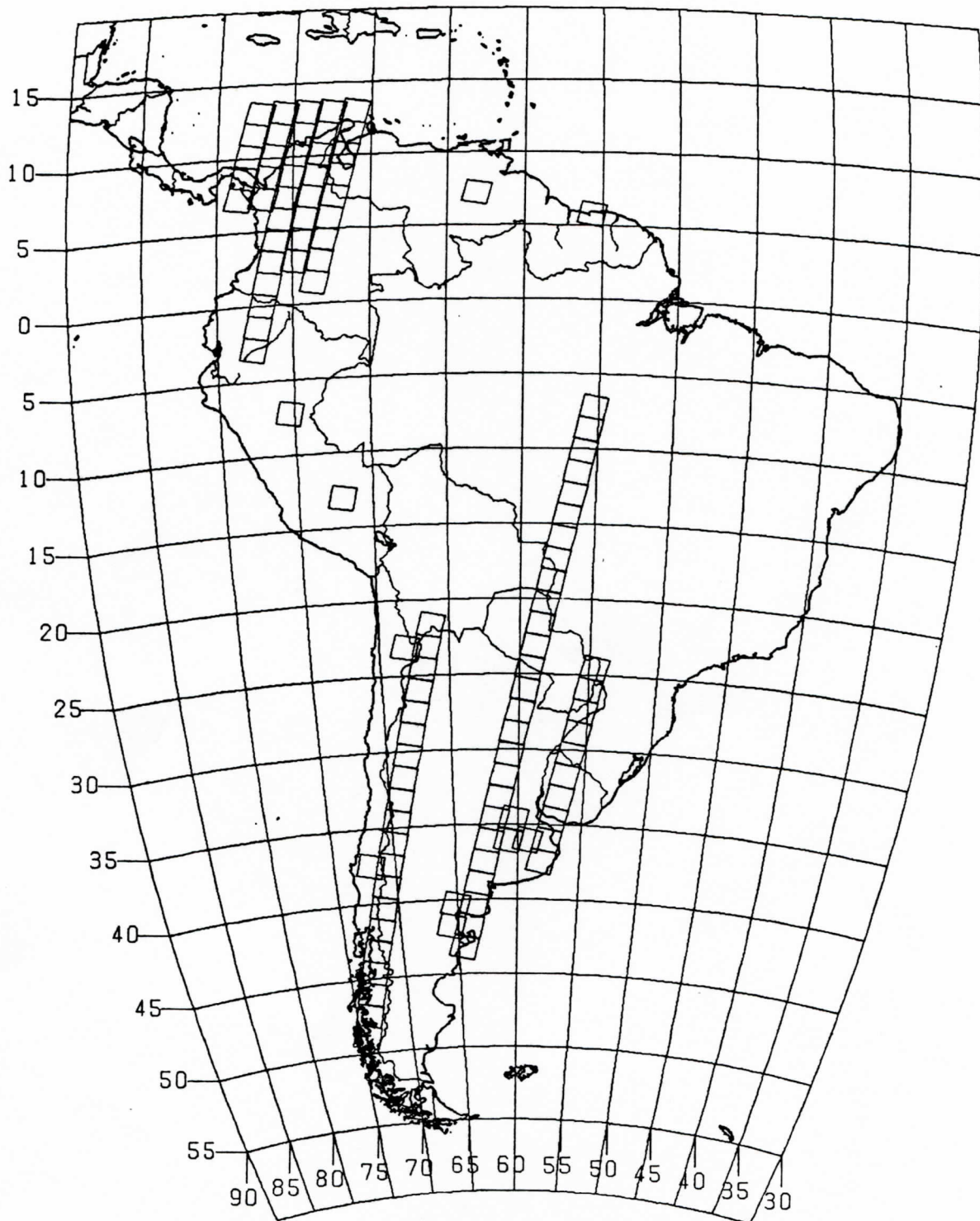
SOUTH AMERICA TM DATA

1988



LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION
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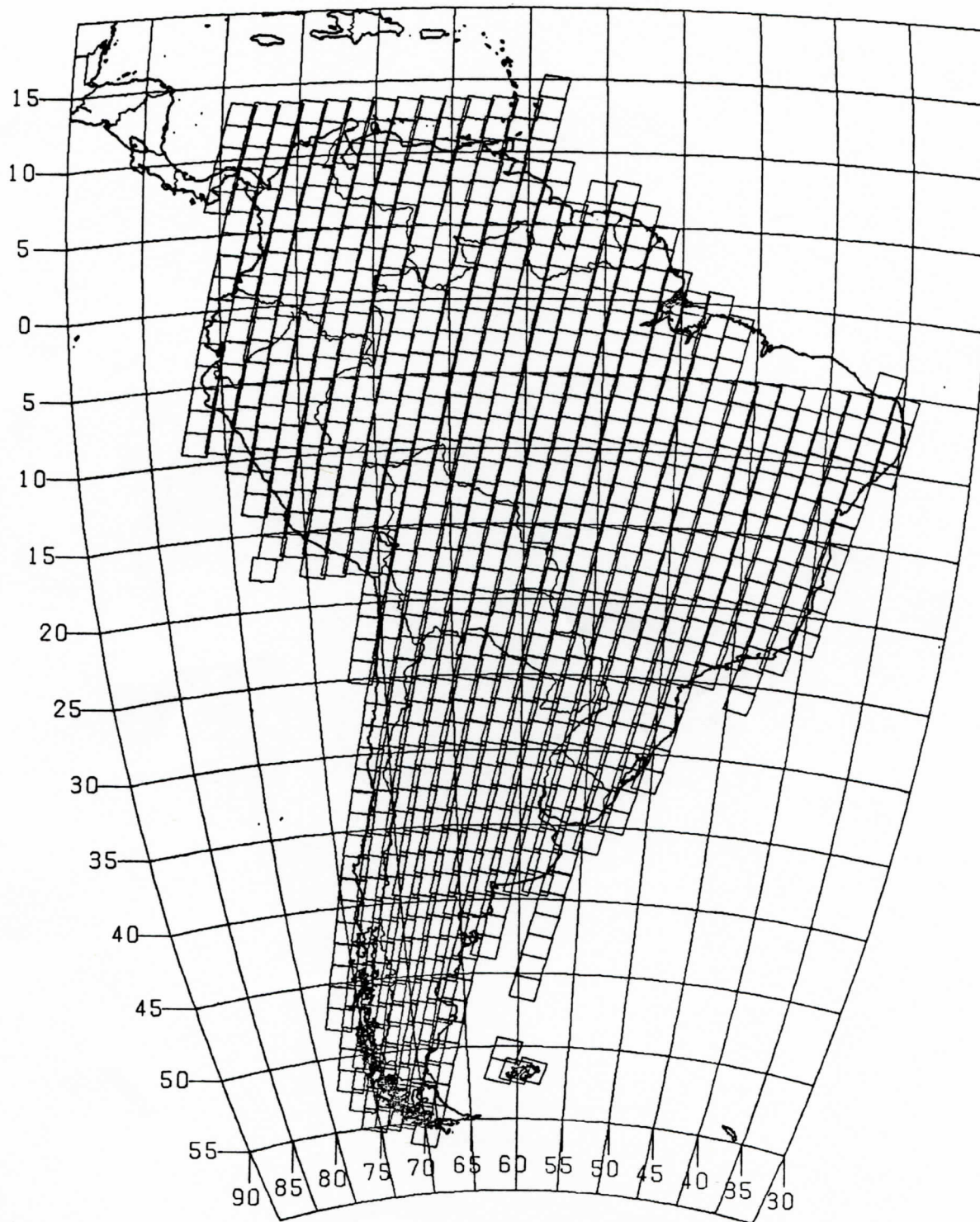
SOUTH AMERICA TM DATA
TO MARCH 1989



LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION
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SOUTH AMERICA TM DATA

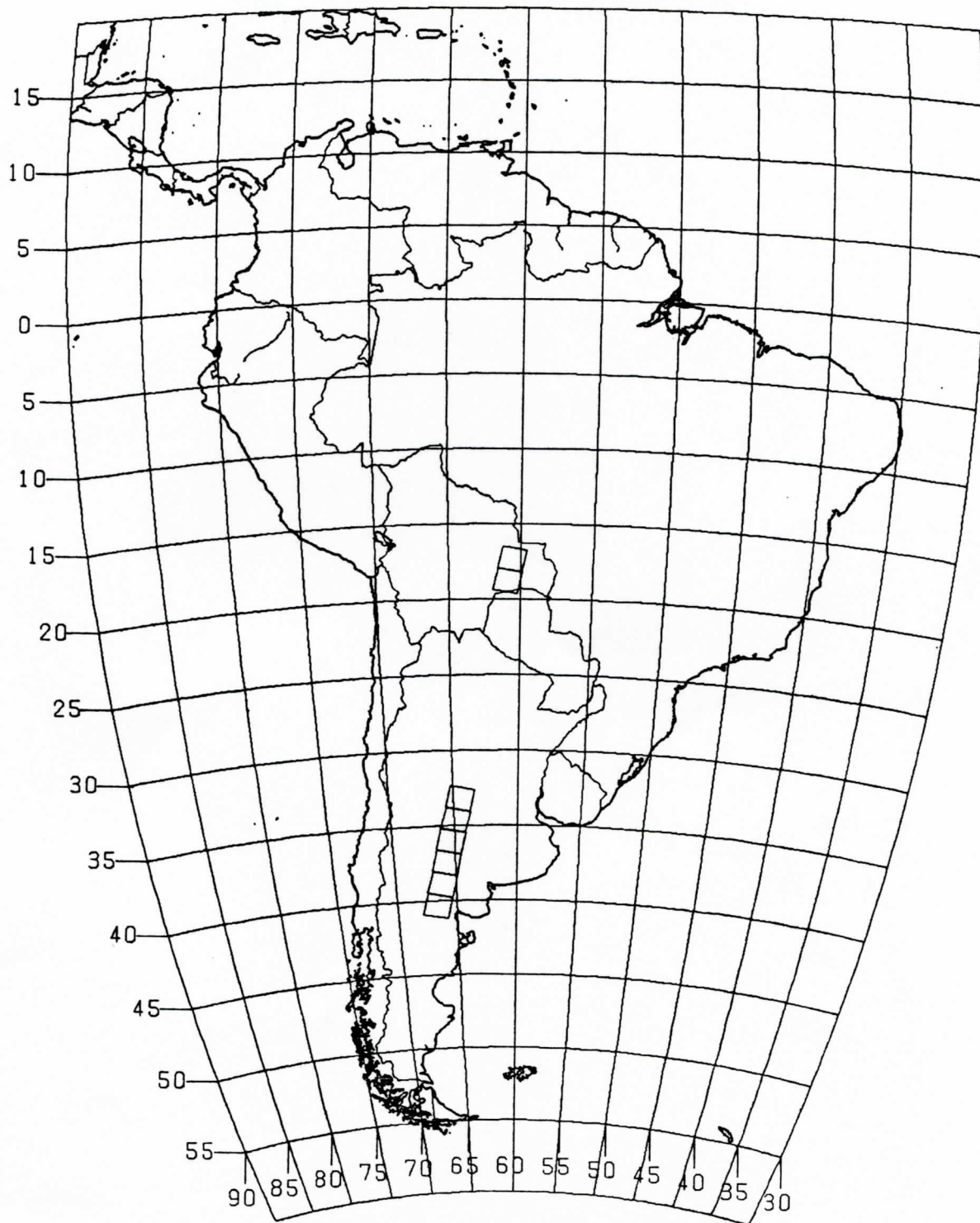
1983 TO MARCH 1989



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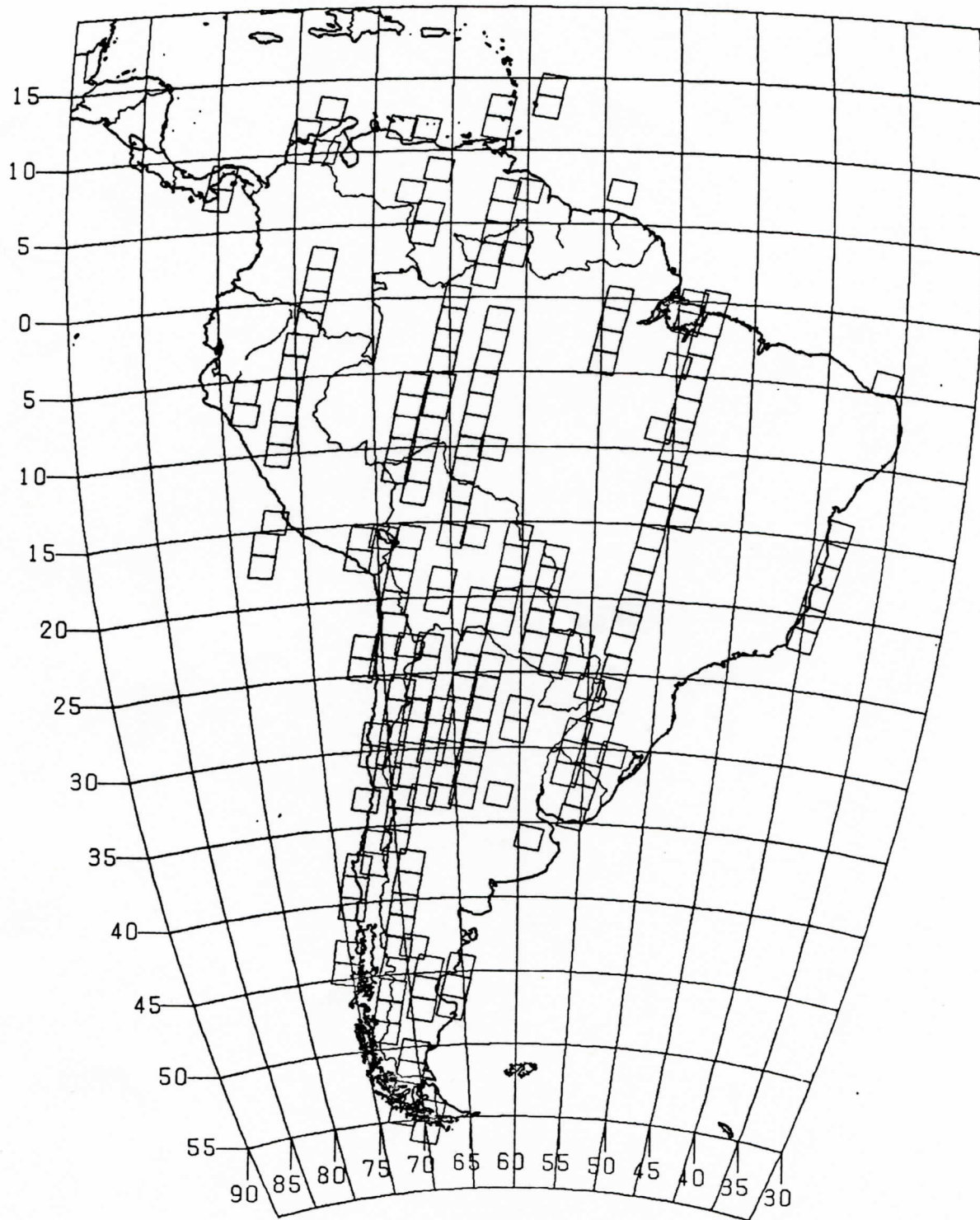
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SOUTH AMERICA TM DATA
WITH 30 PERCENT OR LESS
CLOUD COVER FOR 1983



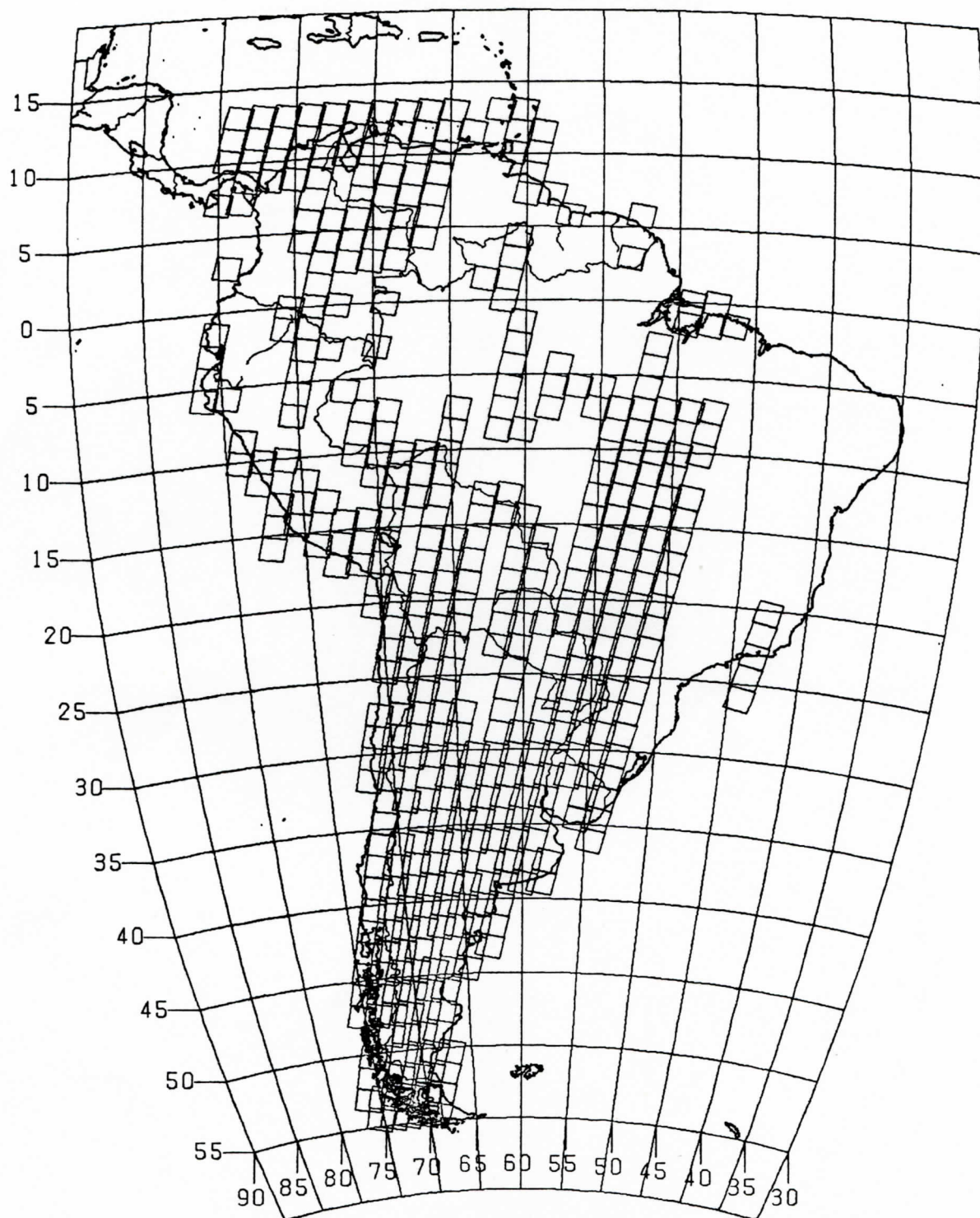
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SOUTH AMERICA TM DATA
WITH 30 PERCENT OR LESS
CLOUD COVER FOR 1984



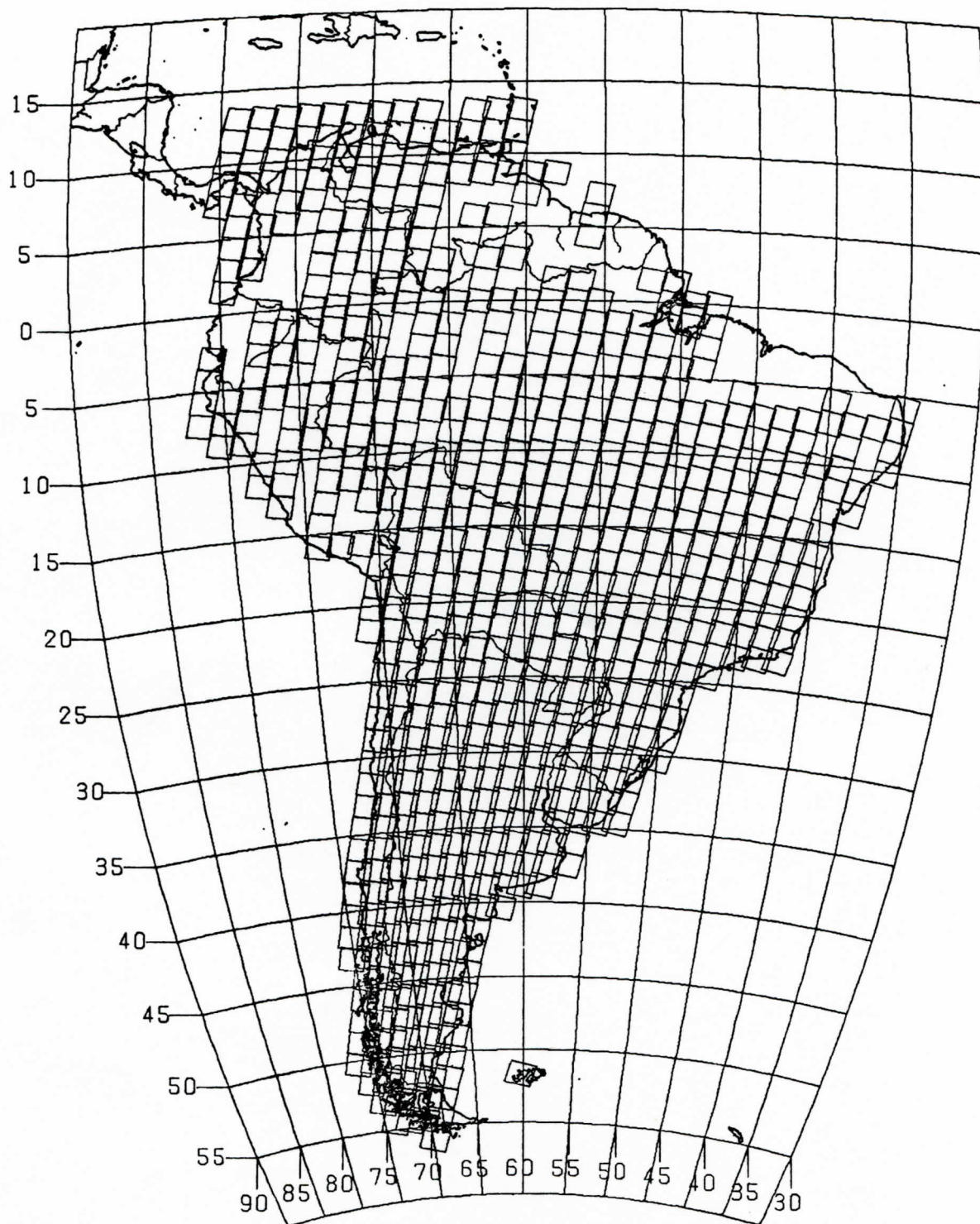
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MAP SCALE 1:45,000,000

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WITH 30 PERCENT OR LESS
CLOUD COVER FOR 1985



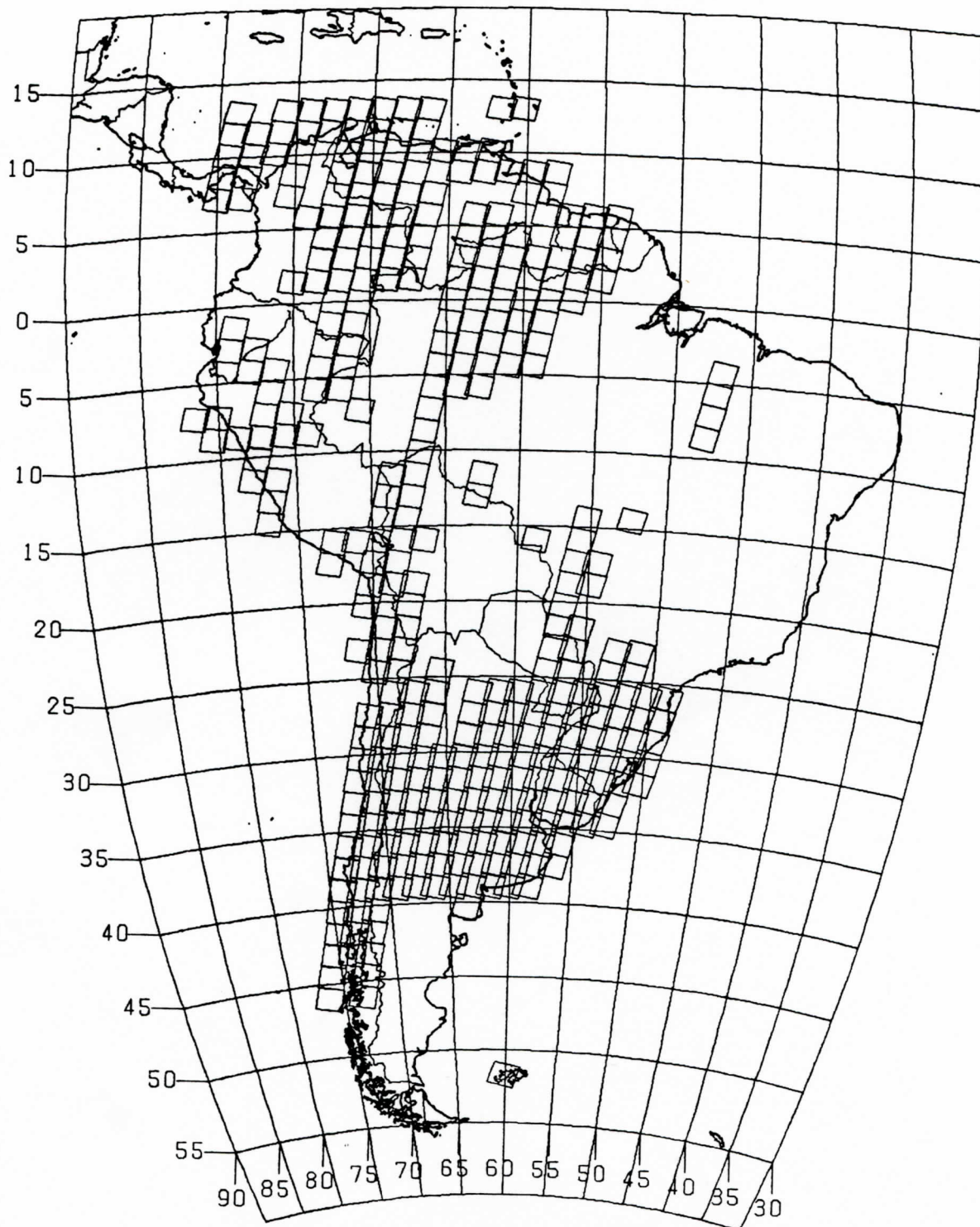
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SOUTH AMERICA TM DATA
WITH 30 PERCENT OR LESS
CLOUD COVER FOR 1986



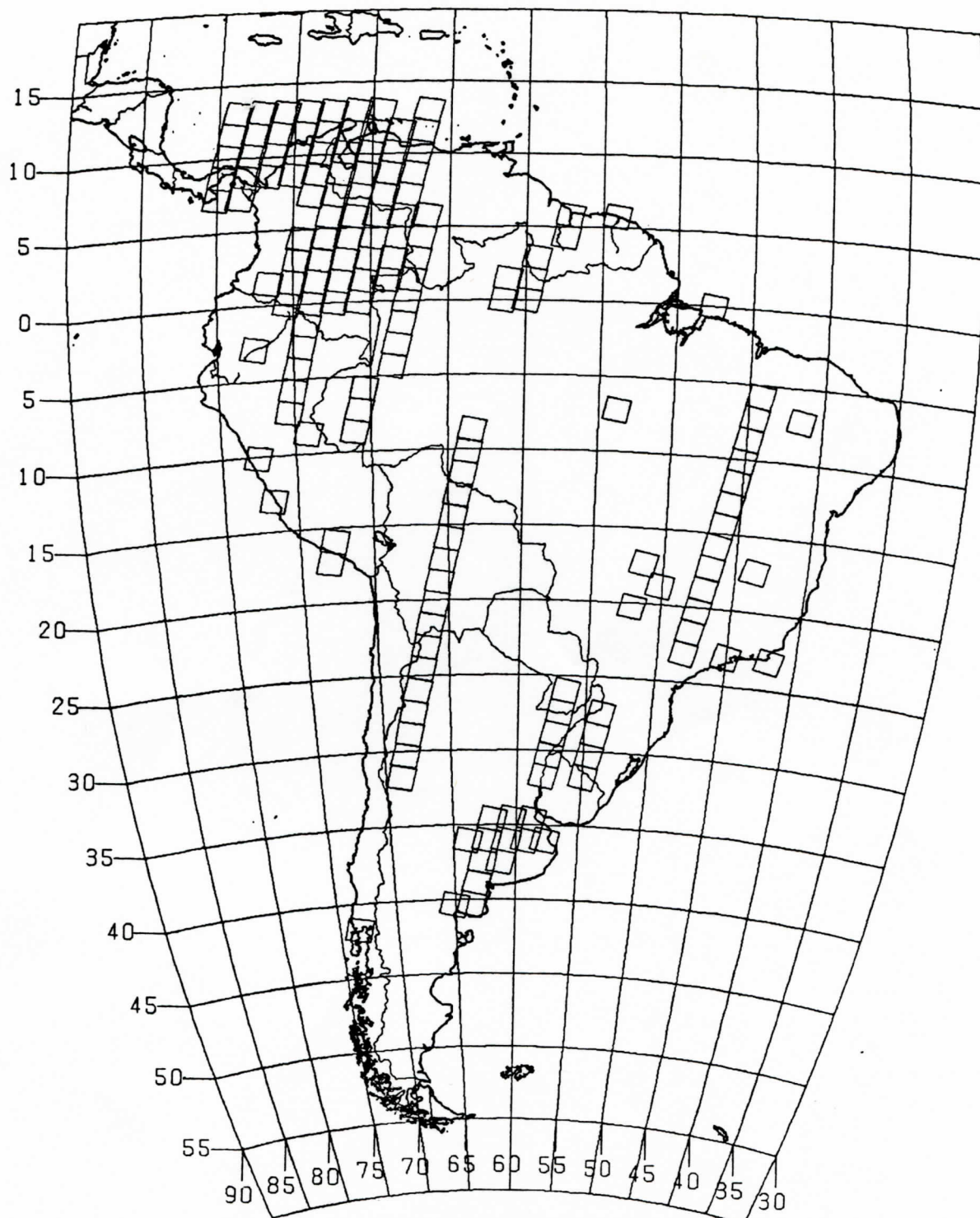
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MAP SCALE 1:45,000,000

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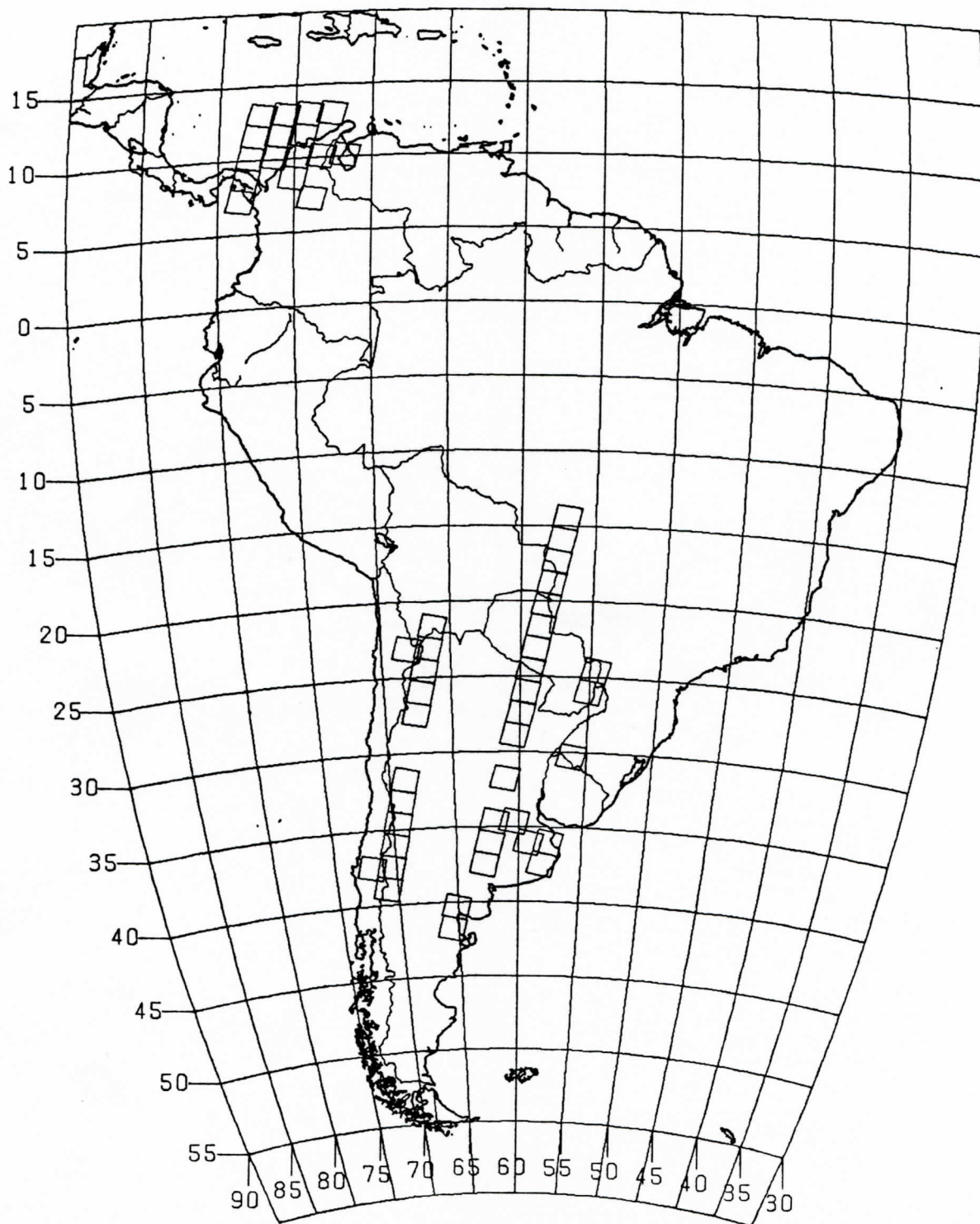
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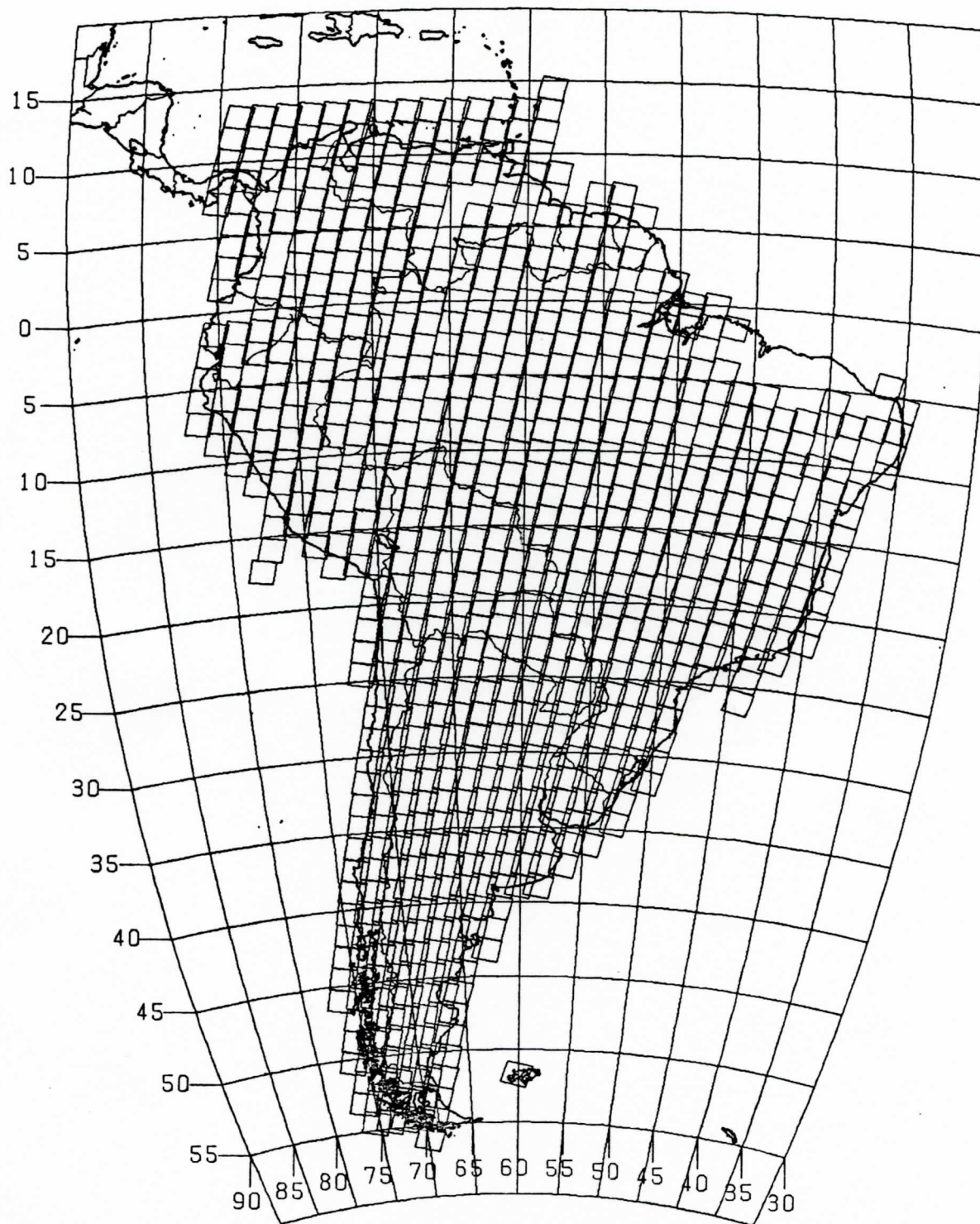
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MAP SCALE 1:45,000,000

SOUTH AMERICA TM DATA
WITH 30 PERCENT OR LESS CLOUD
COVER JANUARY TO MARCH 1989



LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION
MAP SCALE 1:45,000,000

SOUTH AMERICA TM DATA
WITH 30 PERCENT OR LESS CLOUD
COVER 1983 TO MARCH 1989



LAMBERT AZIMUTHAL EQUAL-AREA PROJECTION
MAP SCALE 1:45,000,000